



MULTI VTM **S** **ENGINEERING MANUAL**

Variable Refrigerant Flow
Heat Pump
Outdoor Units
2.0, 3.0, 4.0, 4.4, and 5 Tons

Variable Refrigerant Flow
Heat Recovery
Outdoor Unit
5 Tons



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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

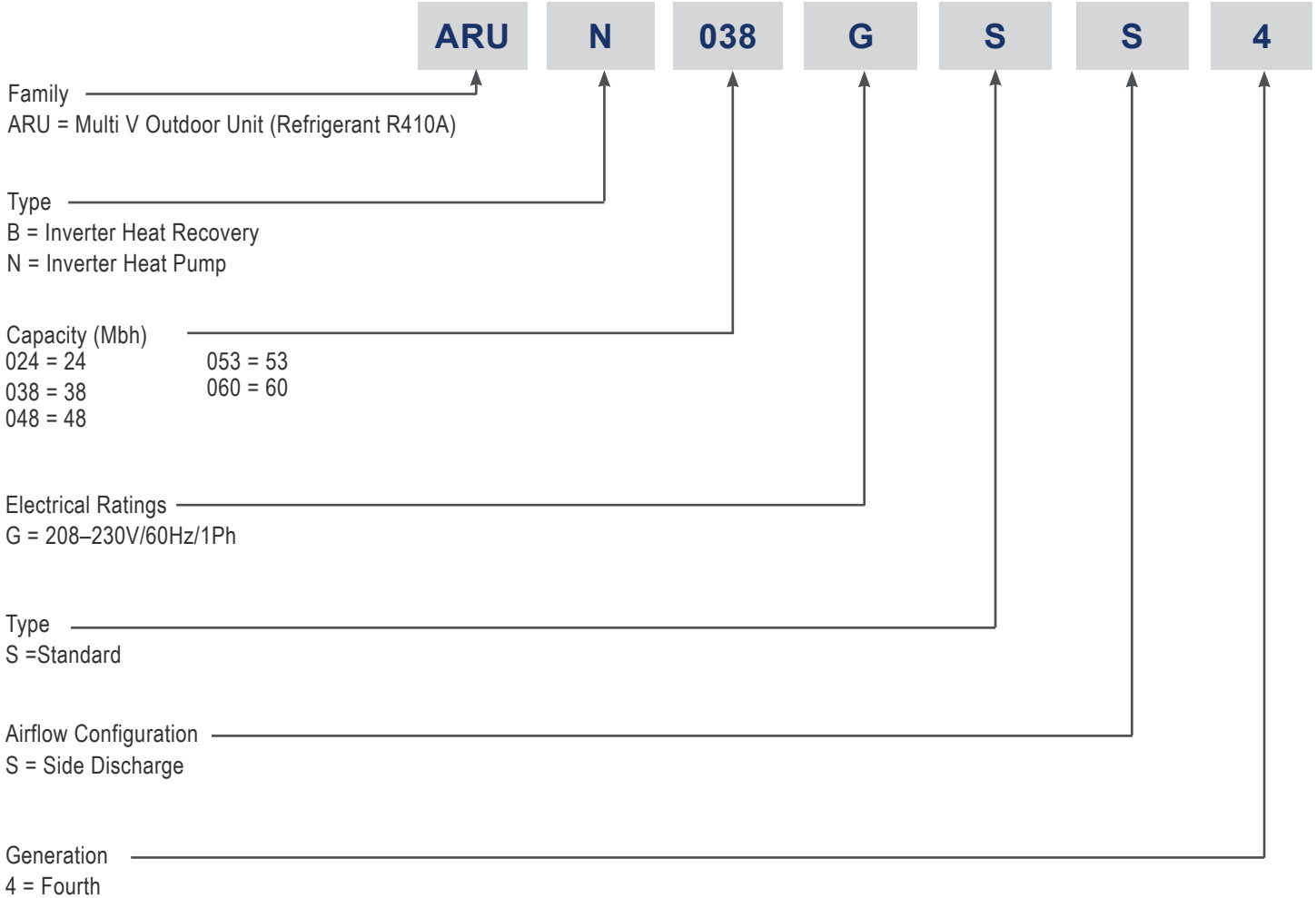
 DANGER	This symbol indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
 WARNING	This symbol indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
 CAUTION	This symbol indicates a potentially hazardous 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

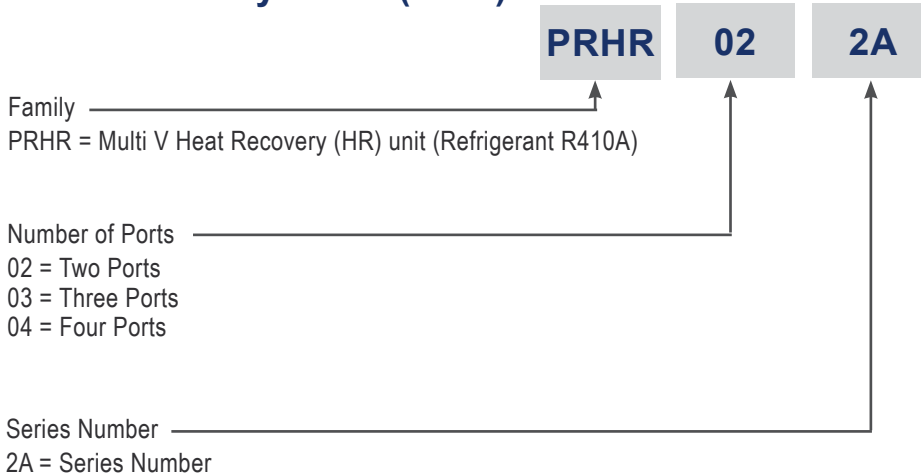


Outdoor Units

Outdoor Units (ODU)



Heat Recovery Units (HRU)



MULTI V S Outdoor Unit Engineering Manual



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.

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.

Figure 1: Example of LATS CAD2.



LG AIR CONDITIONER TECHNICAL SOLUTION (LATS)

LATS Generates a Complete Project Report

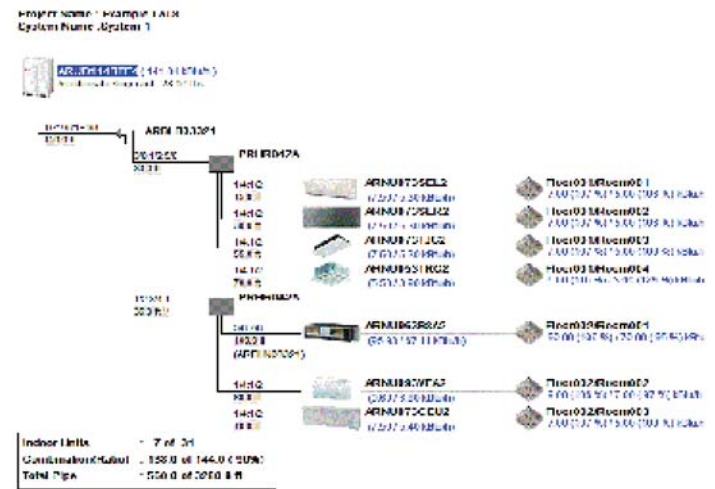
LATS software also generates a report containing project design parameters, cooling and heating design data, system component performance, and capacity data. The report includes system combination ratio and refrigerant charge calculations; and provides detailed bill of material, including outdoor units,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

Proper Design to Install Procedure

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

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

Figure 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.

REFRIGERANT CHARGE WORKSHEET

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	TN	36k		1.41	
20	4-Way 3' x 3' Cassette	TM	24k to 36k		1.08	
21	4-Way 3' x 3' Cassette	TM	42k to 48k		1.41	
22	4-Way 3' x 3' Cassette	TP	24k to 28k		1.06	
23	High Static Ducted	BH	7k to 24k		0.57	
24	High Static Ducted	BG	7k to 42k		0.97	
25	High Static Ducted	BR	28k to 54k		1.37	
26	High Static Ducted	B8	36k to 96k		2.20	
27	Low Static Ducted, Low Static Ducted Bottom Return	L1	5k to 9k		0.31	
28	Low Static Ducted, Low Static Ducted Bottom Return	L2	12k to 18k		0.42	
29	Low Static Ducted, Low Static Ducted Bottom Return	L3	21k to 24k		0.55	
30	Vertical / Horizontal Air Handling Unit	NJ	12k to 30k		1.04	
31	Vertical / Horizontal Air Handling Unit	NJ	36k		1.57	
32	Vertical / Horizontal Air Handling Unit	NK	42k to 54k		2.00	
33	Floor Standing	CE (U)	7k to 15k		0.37	
34	Floor Standing	CF (U)	18k to 24k		0.82	
35	Heat Recovery Units (HRU): PRHR022A, PRHR032A, PRHR042A	—	—		1.1	
36	Outdoor Unit Factory Refrigerant Charge (Choose One)	ARUN024GSS4			0	
		ARUN038GSS4			0	
		ARUN048GSS4			0	
		ARUN053GSS4			0	
		ARUN060GSS4			0	
	ARUB060GSS4			0		
37	ADDITIONAL Refrigerant Charge Required (Sum of lines 1 – 35)					
38	Total FACTORY Refrigerant Charge (Sum of factory refrigerant charges for all ODUs in the system (line 36))					
39	TOTAL SYSTEM CHARGE					
	Sum of Add'l Refrigerant Charge Required (line 42) and Total ODU Factory Refrigerant Charge (line 36)					

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



HEAT PUMP SYSTEM DATA

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General

The LG Multi V S heat pump system consists of an outdoor unit, two or more indoor units, integrated system controls, and interconnecting field-provided refrigerant pipe containing various fittings including Y-Branch kits and Header kits supplied by LG. LG components are manufactured in a facility that meets or exceeds International Organization for Standardization (ISO) 9001 and 14001. The units are listed by Intertek (ETL) and bear the ETL listed mark.

Casing

The outdoor unit case is constructed from 22-gauge coated metal. Exterior panels are cleaned and finished with a weather-resistant baked enamel finish. An easily removable front corner panel is provided to allow access to major components and control devices. Outdoor unit fan(s) are covered with guards made of heavy gauge, heavy duty polymeric resin. The outdoor unit coil is protected with a heavy gauge steel wire guard finished with baked enamel. Paint color is “warm gray.”

Refrigeration System

The refrigeration system consists of a single refrigeration circuit and uses refrigerant R410A. The outdoor unit is provided with factory installed components, including a refrigerant strainer, oil separator, accumulator, hot gas bypass valve, liquid injection valve, four-way reversing valve, electronic controlled expansion valve (EEV), high and low side charging ports, service valves, and interconnecting piping. Also included is an integral subcooler assembly consisting of a double spiral tube type heat exchanger and EEV providing refrigerant subcooling modulation up to 23°F. The unit comes factory charged with 4.0 (2-ton), 6.6 (3-, 4-, and 4.4-ton), or 7.7 (5-ton) pounds of refrigerant.

Refrigeration Oil Control

The refrigeration oil level in the compressor is maintained using a two-stage oil control system. The compressor discharge port is equipped with an oil filtering device designed to restrict oil loss from the compressor. The high-pressure discharge vapor leaves the compressor and immediately enters a centrifugal oil separator that has no moving parts designed to extract oil from the refrigerant gas stream. A gravity drain returns captured oil back to the compressor sump. The outdoor unit microprocessor is programmed to flush the refrigerant piping system for a minimum period of three (3) minutes after eight (8) hours of compressor operation.

Single Inverter / Compressor

The outdoor unit is equipped with one hermetic, digitally-controlled inverter starting (2-, 3-, 4-, 4.4-ton) or hermetically sealed scroll (5-ton) compressor. The compressor is specifically designed for the refrigerant provided and is manufactured by LG. The frequency inverter is designed by LG and is capable of providing a modulation range for 2 ton units from 20 Hz to 75 Hz (cooling and heating), for 3 to 4.4 tons from 20 Hz to 90 Hz (cooling) and 20 Hz to 100 Hz (heating), and for 5 ton from 20 to 125 Hz modulating in increments of 1.0 Hz. The compressor motor is suction gas-cooled and has an acceptable voltage range of ±10% of nameplate voltage.

Figure 3: Multi V S Outdoor Unit.



External suction and discharge temperature and pressure sensors are provided to protect the compressor from damage caused by over / under temperature or over / under pressure conditions. The compressor is provided with a positive displacement oil pump providing sufficient oil film on all bearing surfaces across the entire inverter modulation range. The compressor is factory charged with Polyvinyl ether (PVE) refrigeration oil having no hygroscopic properties. Compressor bearings are Teflon® coated. The compressor is wrapped with a heat resistant, sound attenuating blanket and mounted on rubber isolation grommets.

Outdoor Unit Coil

Outdoor unit coils are a minimum of two rows (2-, 3-, 4-, 4.4-ton) or three rows (5-ton), 14 fins per inch, and manufactured using copper tubes with mechanically bonded aluminum louvered fins. Fin surfaces are coated with Gold-Fin™ corrosion resistant hydrophilic silica gel coating. Coils are pressure tested at a minimum of 551 psig.

Fans and Motors

Units are furnished with one (2-ton) or two (3-, 4-, 4.4-, 5-ton) axial flow fans providing horizontal airflow from the rear and discharg-

MECHANICAL SPECIFICATIONS



Multi V S Heat Pump Outdoor Units—ARUN024, 038, 048, 053, 060GSS4

ing from the front of the unit. Fan blades are 20-1/2 inch diameter, balanced, and made of durable acrylonitrile butadiene styrene (ABS) polymeric resin. Motors are designed to operate between 0 and 850 RPM in cooling and heating. Fans are driven by digitally controlled inverters that vary the fan speed. Motors are brushless, digitally controlled (BLDC) and have permanently lubricated and sealed ball bearings. All outdoor unit fans are controlled by an inverter drive mounted near the main microprocessor.

The outdoor unit fan speed is controlled using an algorithm that provides three pre-programmed fan speeds. DIP Switch adjustable settings limit night time (off peak) fan speed to reduce fan generated noise by up to 10 dB(A).

Outdoor Unit Controls

Outdoor units are factory wired with necessary electrical control components, printed circuit boards, thermistors, sensors, terminal blocks, and lugs for power wiring. The control wiring circuit is low voltage and includes a control power transformer, fuses, and interconnecting wiring harness with plug connectors. Microprocessor based algorithms provide component protection, soft-start capability, refrigeration system pressure and temperature control, defrost, and ambient control. The unit is designed to provide continuous compressor operation from -9.9°F to +122°F in cooling mode (with optional low ambient kit).

When the system is started, the connected indoor units are automatically assigned an electronic address by the outdoor unit's microprocessor. Additionally, each indoor unit is capable of accepting a manual assignment of a secondary electronic address that, if used, provides unit tag identification when integrating with LG VNet control devices.

While operating in the Heating mode, the outdoor unit has a demand based defrost control algorithm and a refrigeration system pump down cycle designed to store refrigerant in the outdoor unit up to 4.4 lbs. for the 2 ton units, and up to 7.7 lbs. for the 5 ton units. In Heating mode, a cooperative control algorithm automatically balances, in real-time, the distribution of refrigerant to the indoor units when the system's refrigerant mass flow is insufficient to satisfy the demand of all indoor units when the system is called on to operate outside the system design parameters.

In 10-second intervals, the outdoor unit microprocessor will record the last three minutes of system run-time data in non-volatile memory. Upon unit malfunction, or a power outage that results in a system shutdown, the stored system operational data can be retrieved and analyzed to assist in diagnosing a system malfunction.

The outdoor unit microprocessor is provided with a three-digit, LED display that communicates active system information and / or malfunction codes. The microprocessor has an algorithm that actively verifies the operational condition of system sensors and thermistors. A refrigerant auto-trim-charge algorithm assists the installer with properly charging the system.

A power conditioning circuit is provided and designed to protect the unit's inverter compressor and outdoor unit fan motors from phase failure, phase reversal, sense an under-voltage or over-voltage condition, and to prevent transmission of power irregularities to the supply power source. A snow throw algorithm is provided and designed to reduce snow buildup on the discharge side louvers grille at regular intervals.

Table 1: 208-230V Heat Pump Unit Specifications.

Model Numbers	2.0 Ton	3.0 Ton	4.0 Ton	4.4 Ton	5.0
	ARUN024GSS4	ARUN038GSS4	ARUN048GSS4	ARUN053GSS4	ARUN060GSS4
<i>Cooling Performance</i>					
Nominal Cooling Capacity (Btu/h) ¹	24,000	39,500	50,000	55,500	60,000
Rated Cooling Capacity (Btu/h) ²	24,000	38,000	48,000	53,000	60,000
<i>Heating Performance</i>					
Nominal Heating Capacity (Btu/h) ¹	27,000	44,000	56,500	61,500	64,000
Rated Heating Capacity (Btu/h) ²	27,000	42,000	54,000	59,000	64,000
<i>Operating Range</i>					
Cooling (°F DB) ³	23 to 122				
Heating (°F WB)	-4 to +61			-13 to +61	
<i>Compressor</i>					
Inverter Type / Quantity	DC Inverter Starting / 1			Hermetically Sealed Scroll / 1	
Oil / Type	PVE / FVC68D				
<i>Fan (Side Discharge)</i>					
Type	Axial Flow Fan				
Motor Output (kW) x Qty.	0.124 x 1	0.124 x 2			
Motor / Drive	Brushless Digitally Controlled / Direct				
Operating Range (RPM)	Cooling	0 to 850			
	Heating	0 to 850			
Maximum Air Volume (CFM)	2,119	3,885			
<i>Unit Data</i>					
Refrigerant Type	R410A				
Refrigerant Control/Location	EEV / Indoor Unit				
Max. Number Indoor Units / System ⁴	4	6	8	9	12
Sound Pressure dB(A) ⁵	50		51	52	57
Net Unit Weight (lbs.)	159	207			260
Shipping Weight (lbs.)	176	218			291
Communication Cables ^{6,7}	2 x 18				
<i>Heat Exchanger</i>					
Material and Fin Coating	Copper Tube / Aluminum Fin and GoldFin™ / Hydrophilic				
Rows / Fins per inch	2 / 14			3 / 14	
<i>Piping⁸</i>					
Liquid Line Connection (in., OD)	3/8 Flare	3/8 Braze	3/8 Braze	3/8 Braze	3/8 Braze
Vapor Line Connection (in., OD)	5/8 Flare	5/8 Braze	5/8 Braze	3/4 Braze	3/4 Braze
Factory Charge lbs. of R410A	4.0	6.6		7.7	

¹Nominal 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 80°F dry bulb (DB) and 67°F wet bulb (WB) and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).

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

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

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

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

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

⁶Communication cable between ODU, IDUs, and Central Controller 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 communication cable at any other point. Wiring must comply with all applicable local and national codes.

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

⁸LG 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.

Table 2: 208-230V Heat Pump Unit Electrical Data.

Nominal Tons	Unit Model No.	Compressor Motor		Outdoor Unit Fan Motor		MCA	MOP
		Quantity	Motor Amps RLA (Ea.)	Fan Qty.	Amps FLA x Qty.		
2.0	ARUN024GSS4	1	15.3	1	0.5 x 1	19.6	30
3.0	ARUN038GSS4	1	19.5	2	0.5 x 2	25	40
4.0	ARUN048GSS4	1	23.1	2	0.5 x 2	30	50
4.4	ARUN053GSS4	1	25.2	2	0.5 x 2	33	50
5.0	ARUN060GSS4	1	19.5	2	0.5 x 2	25.4	40

Voltage tolerance is ±10%.

Maximum allowable voltage unbalance is 2%.

MCA = Minimum Circuit Ampacity.

Maximum Overcurrent Protection (MOP) 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.

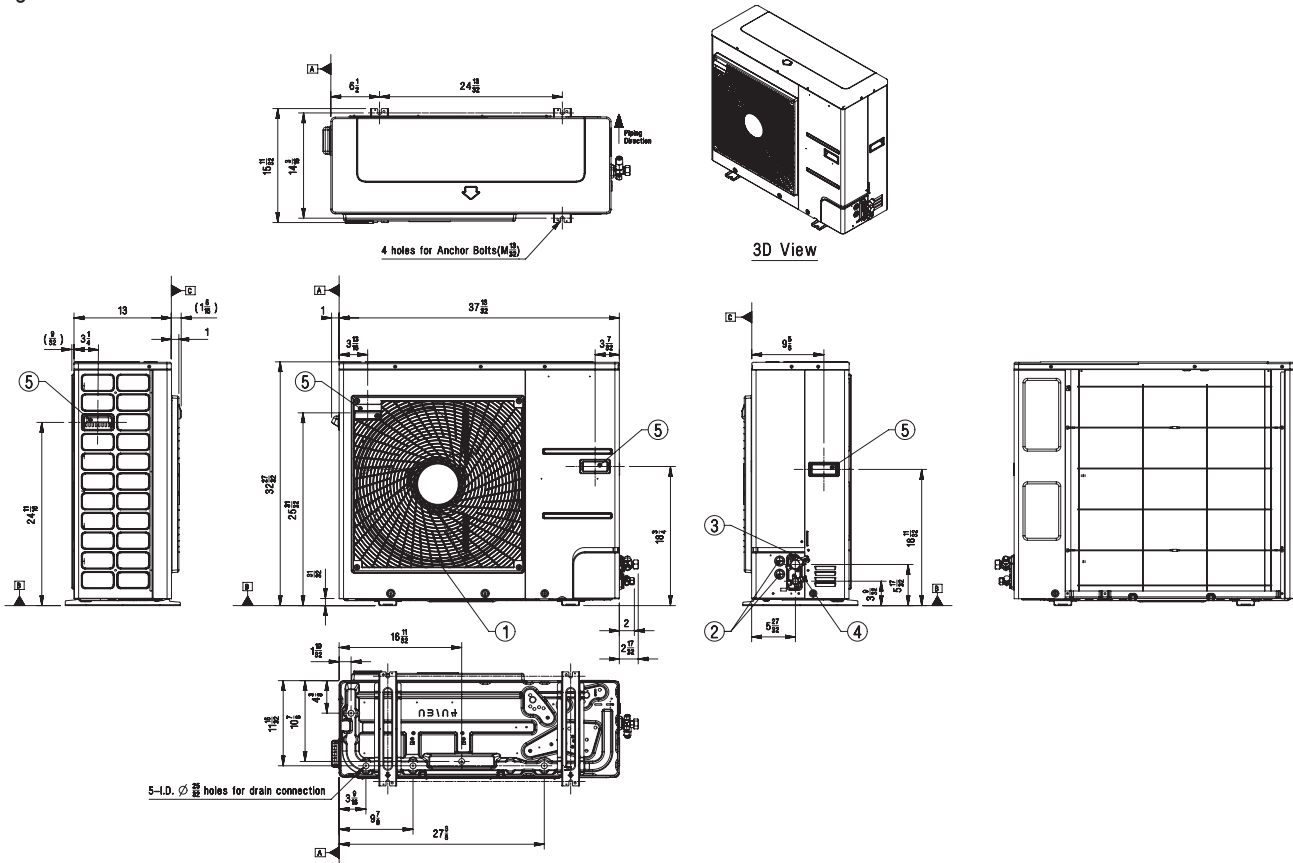
*SCCR rating: 5kA RMS Symmetrical.



OUTDOOR UNIT DIMENSIONS

ARUN024GSS4

Figure 4: ARUN024GSS4 Dimensions.



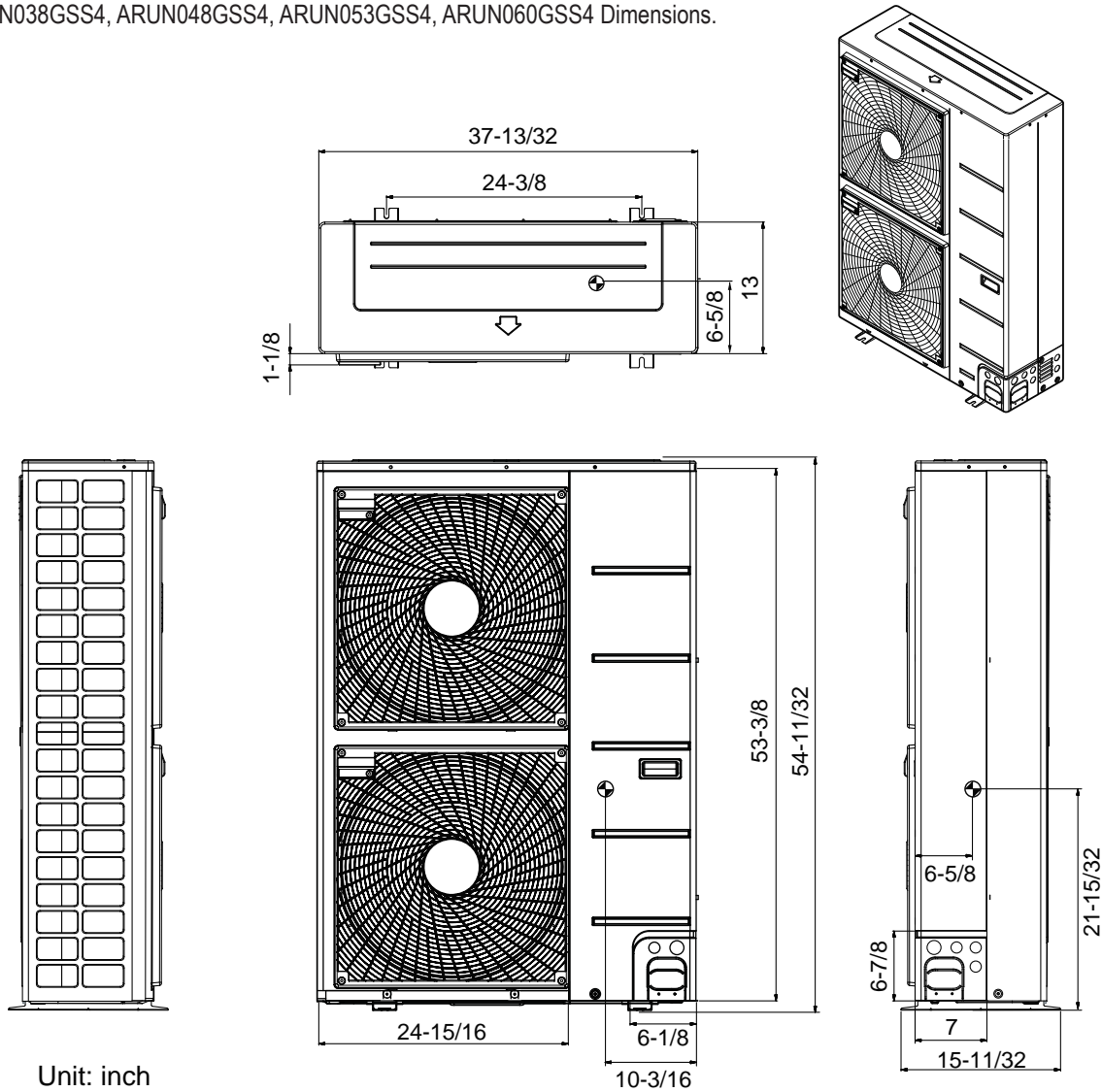
[Unit: inch]

Symbols
→ Piping Direction
▶ □ Datum line

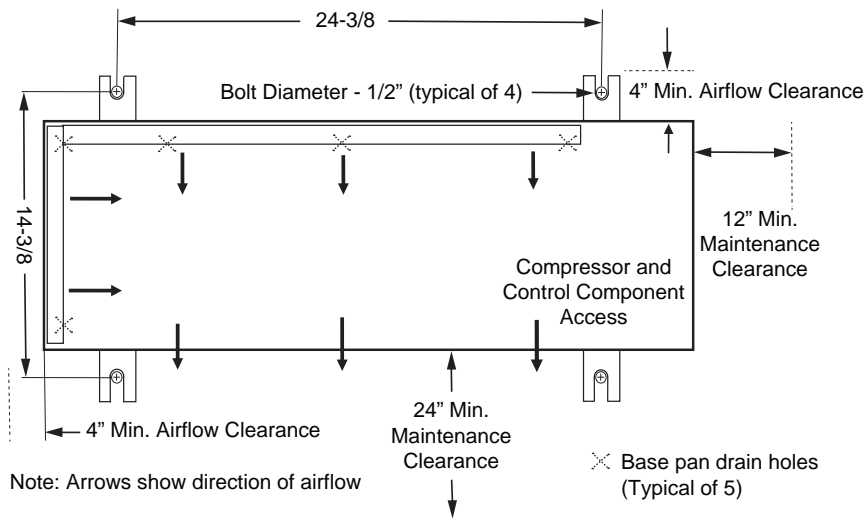
Note
1. Unit should be installed in compliance with the installation manual in the product box.
2. Unit should be grounded in accordance with the local regulations or applicable national codes.
3. All electrical components and materials to be supplied from the site must comply with the local regulations or international codes.
4. Electric characteristics chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.

No.	Part Name	Description
5	Handle	-
4	Liquid Pipe Connection	Flare joint
3	Gas Pipe Connection	Flare joint
2	Power and communication cable Hole	-
1	Air Outlet	-

Figure 5: ARUN038GSS4, ARUN048GSS4, ARUN053GSS4, ARUN060GSS4 Dimensions.



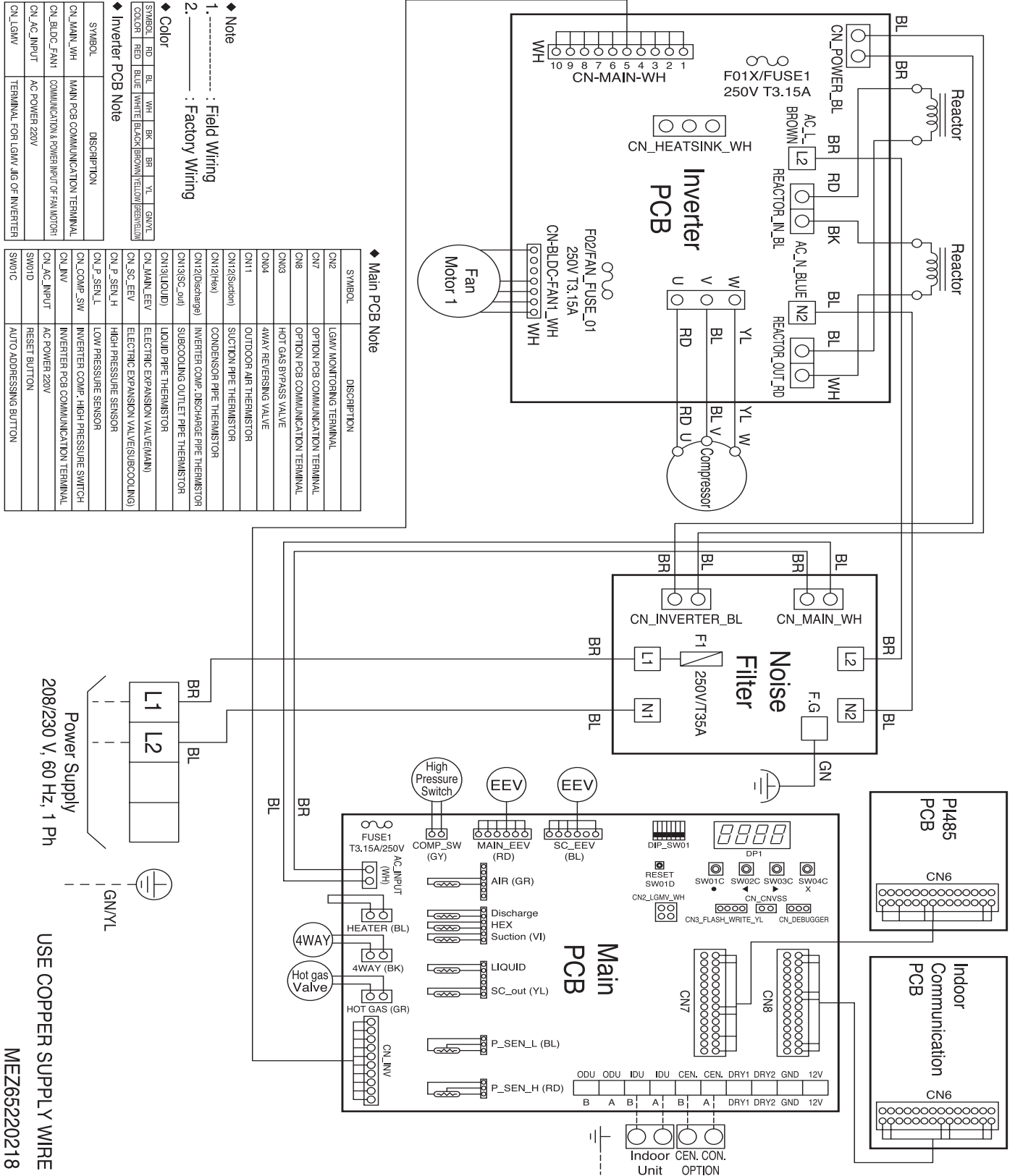
Unit: inch
 ⊕ Center of Gravity



WIRING DIAGRAM

ARUN024GSS4

Figure 6: ARUN024GSS4 Wiring Diagram.



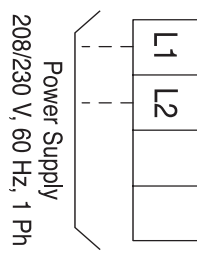
- ◆ Note
- 1. ----- : Field Wiring
- 2. ----- : Factory Wiring

◆ Inverter PCB Note

SYMBOL	RD	BL	WH	BR	YL	GN/YL
COLOR	RED	BLUE	WHITE	BLACK	BROWN	YELLOW/GREEN/YELLOW

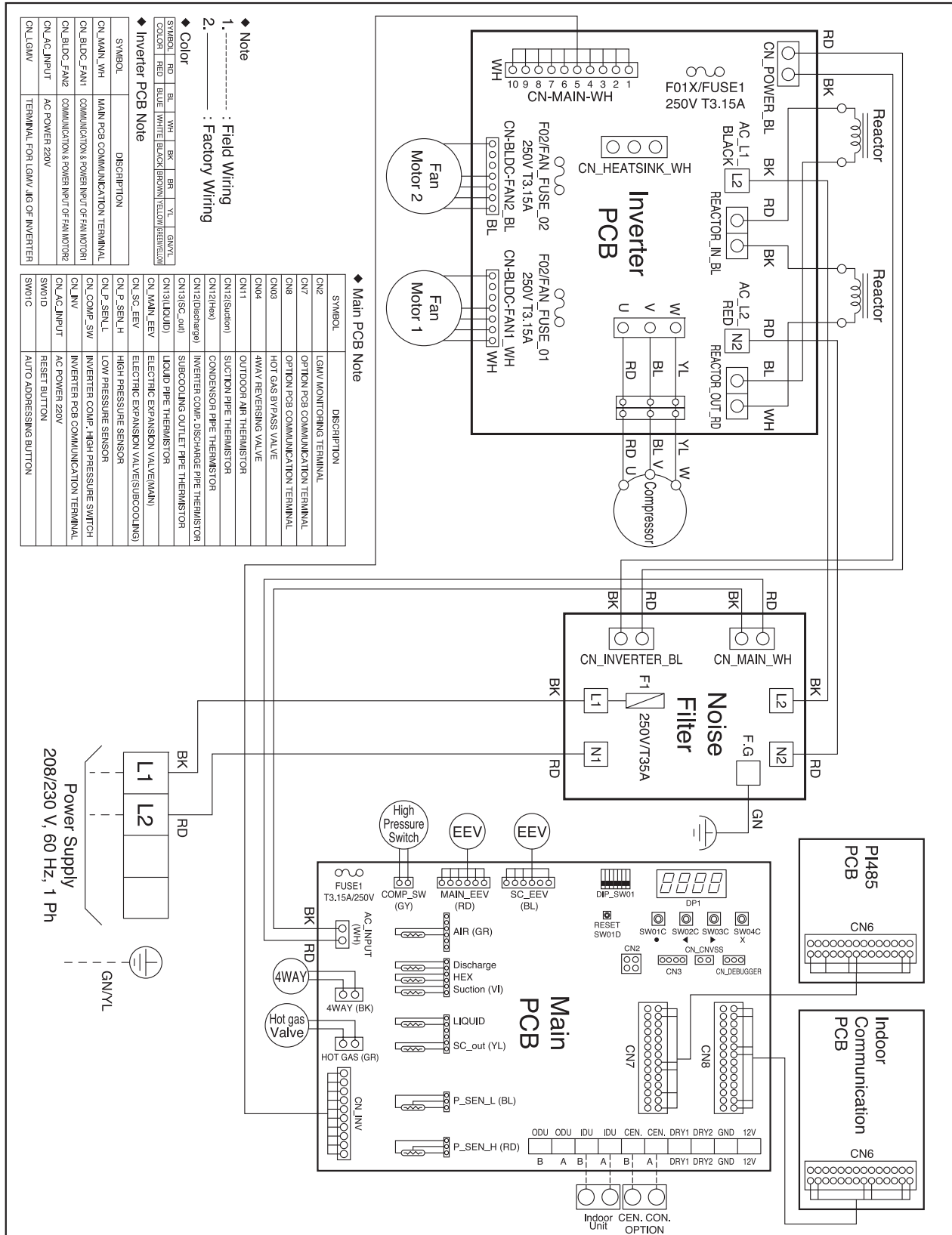
◆ Main PCB Note

SYMBOL	DESCRIPTION
CN2	LGWV MONITORING TERMINAL
CN7	OPTION PCB COMMUNICATION TERMINAL
CN8	OPTION PCB COMMUNICATION TERMINAL
CN03	HOT GAS BYPASS VALVE
CN04	4WAY REVERSING VALVE
CN1	OUTDOOR AIR THERMISTOR
CN1(SUB)	SUCTION PIPE THERMISTOR
CN2(Heat)	CONDENSOR PIPE THERMISTOR
CN2(Dischangel)	INVERTER COMP. DISCHARGE PIPE THERMISTOR
CN3(SC_out)	SUBCOOLING OUTLET PIPE THERMISTOR
CN3(LIQUID)	LIQUID PIPE THERMISTOR
CN4(MAN_EEV)	ELECTRIC EXPANSION VALVE(MAN)
CN5(SC_EEV)	ELECTRIC EXPANSION VALVE(SUBCOOLING)
CN6_P_SEN_L	HIGH PRESSURE SENSOR
CN6_P_SEN_H	LOW PRESSURE SENSOR
CN7_COMP_SW	INVERTER COMP. HIGH PRESSURE SWITCH
CN8_INV	INVERTER PCB COMMUNICATION TERMINAL
CN9_AC_INP/UT	AC POWER 220V
SW01D	RESET BUTTON
SW01C	AUTO ADDRESSING BUTTON



USE COPPER SUPPLY WIRE
MEZ65220218

Figure 7: ARUN038GSS4, ARUN048GSS4, ARUN053GSS4 Wiring Diagram.



WIRING DIAGRAM

ARUN060GSS4

Figure 8: ARUN060GSS4 Wiring Diagram.

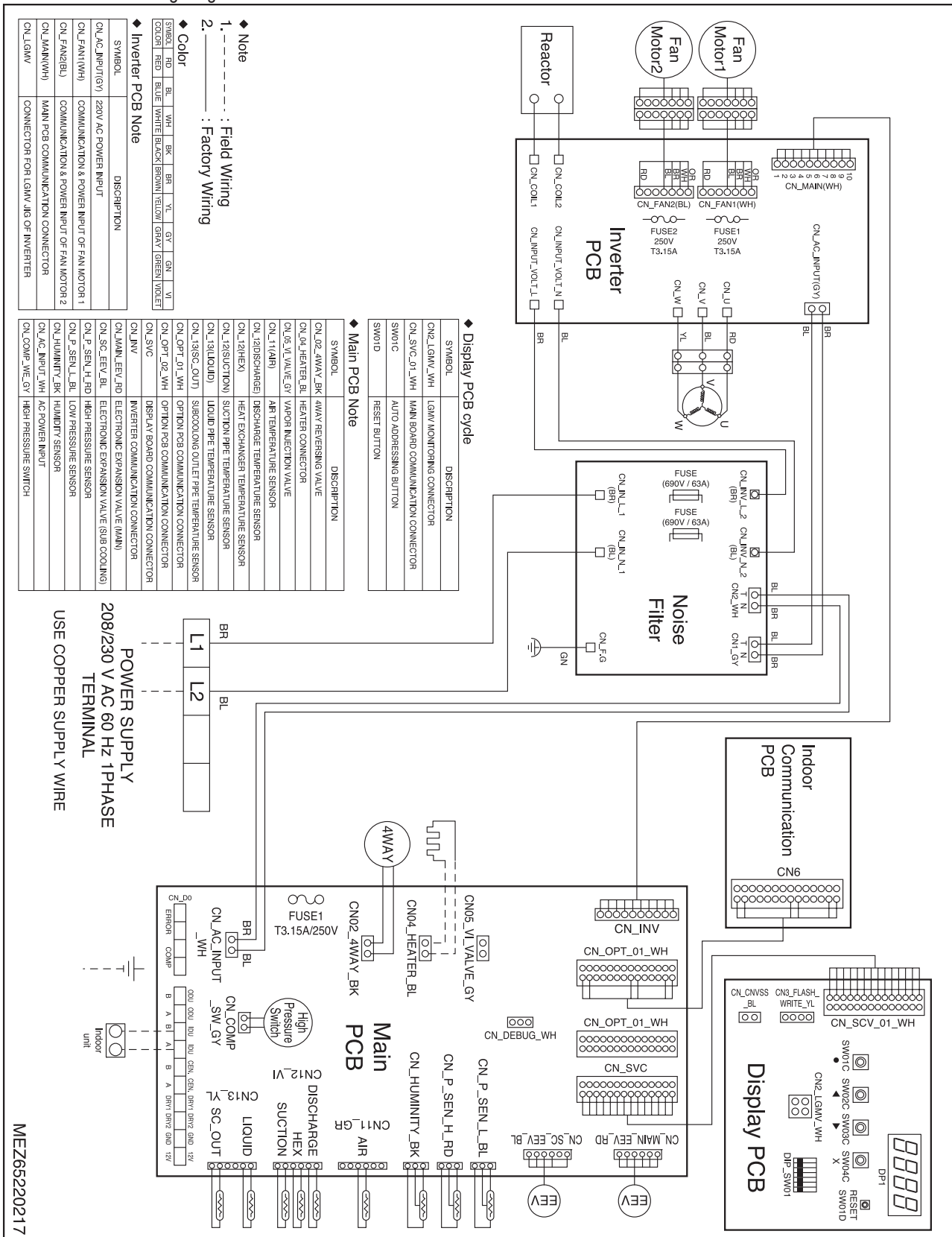
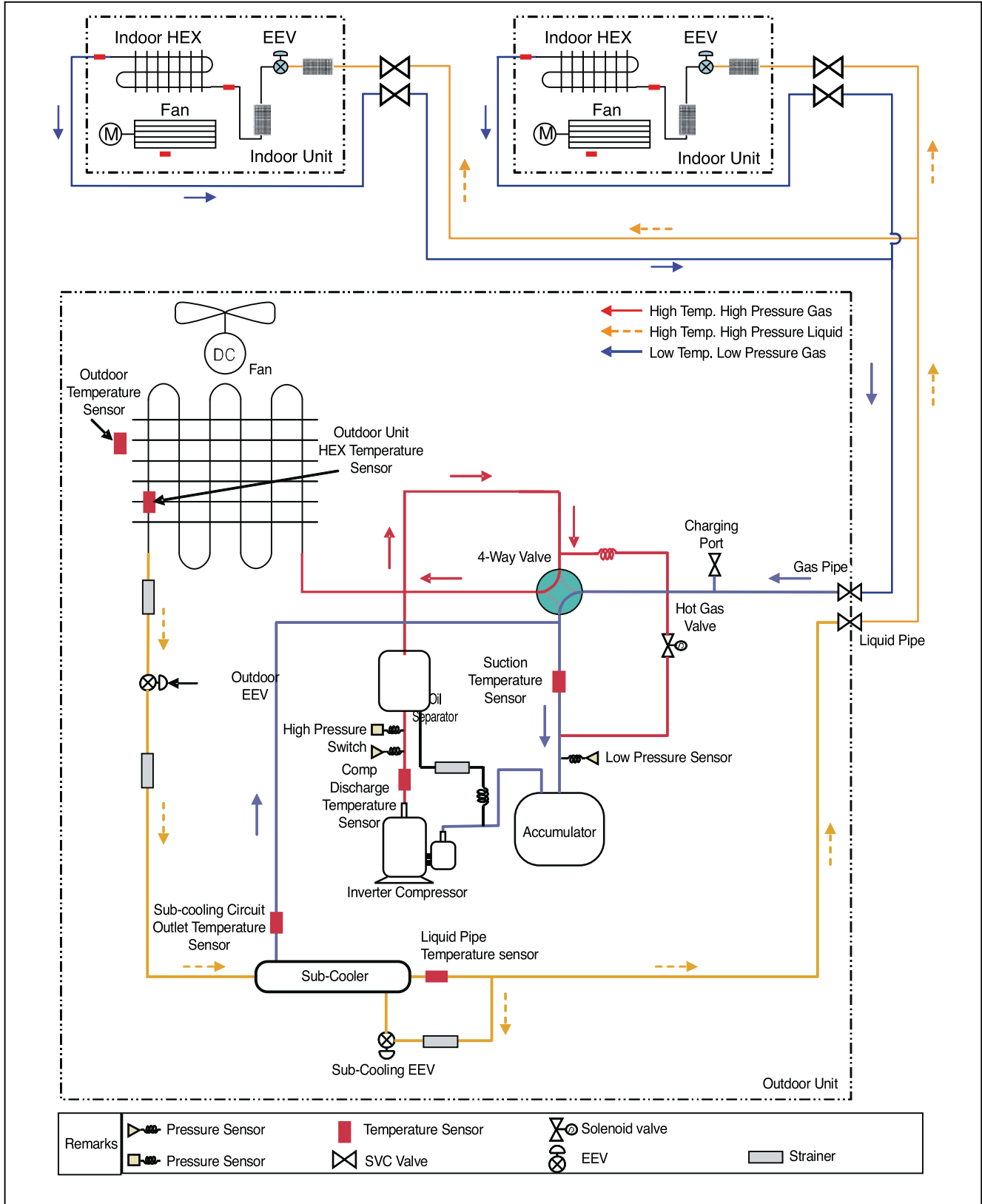


Figure 9: ARUN024GSS4 — Cooling Mode.



REFRIGERANT FLOW DIAGRAMS

ARUN024GSS4

Heating Mode

Figure 10: ARUN024GSS4 — Heating Mode.

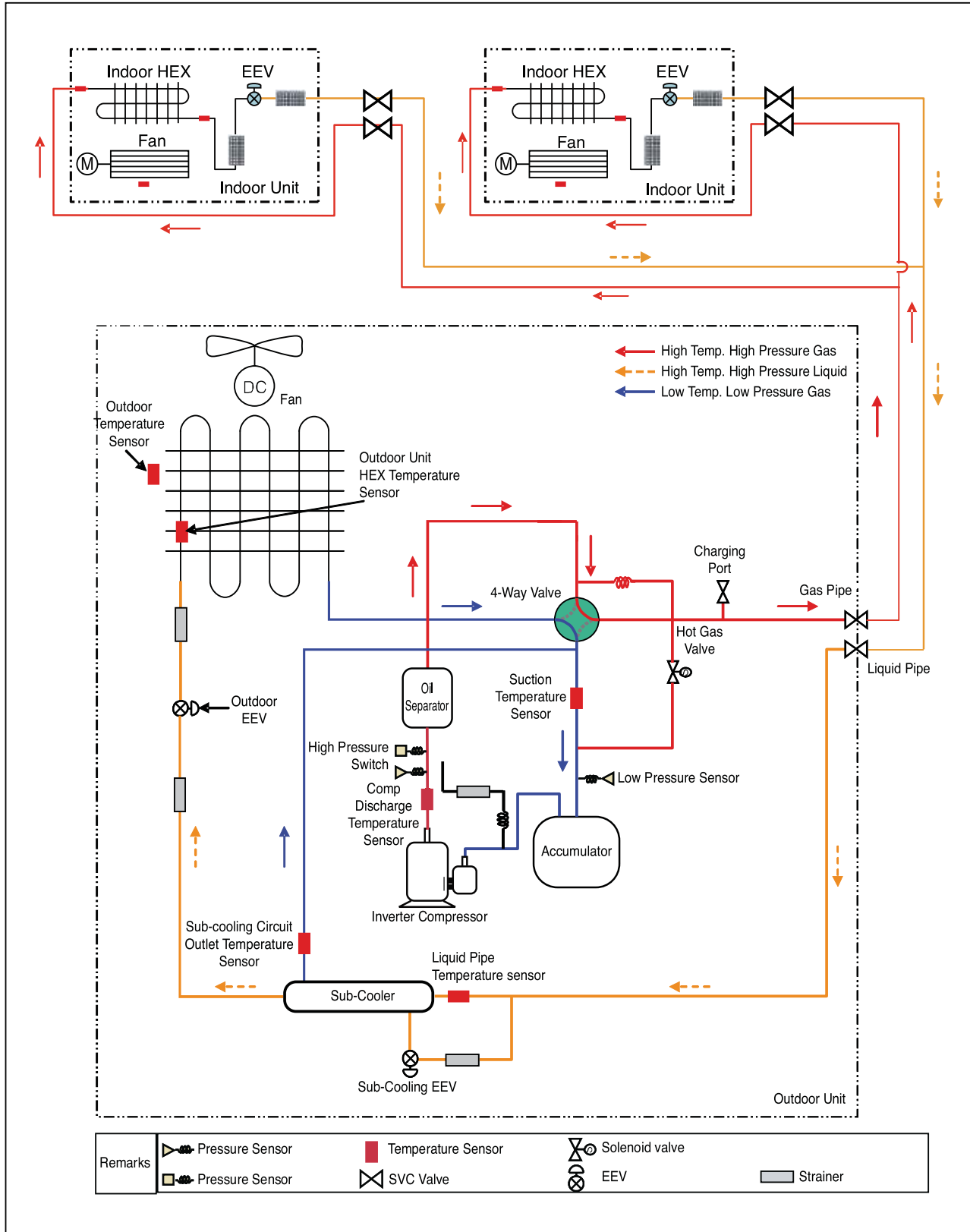
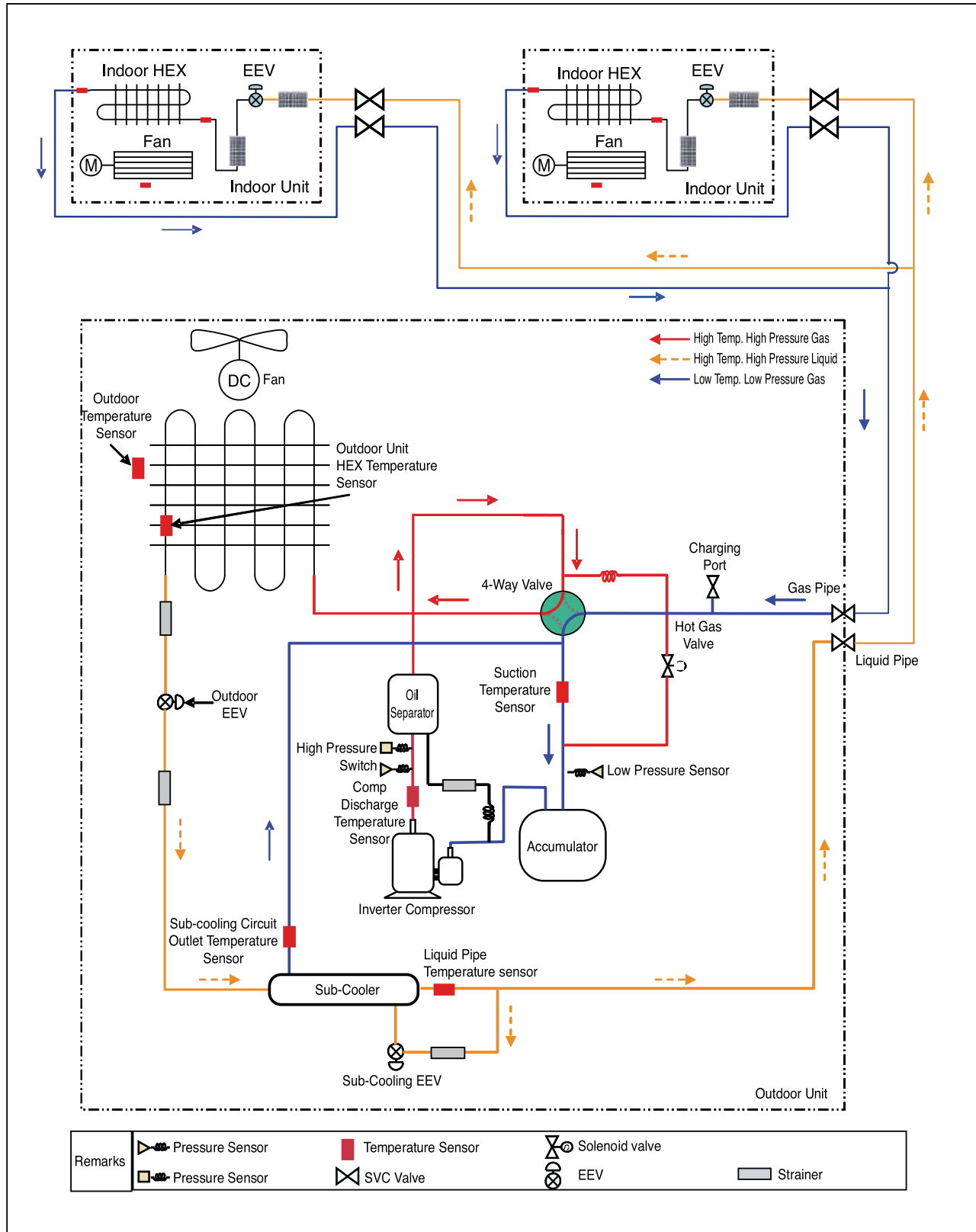


Figure 11: ARUN024GSS4 — Oil Return / Defrost.



Heat Pump Product Data

REFRIGERANT FLOW DIAGRAMS

ARUN038GSS4, ARUN048GSS4, ARUN053GSS4

Cooling Mode

Figure 12: ARUN038GSS4, ARUN048GSS4, ARUN053GSS4 — Cooling Mode.

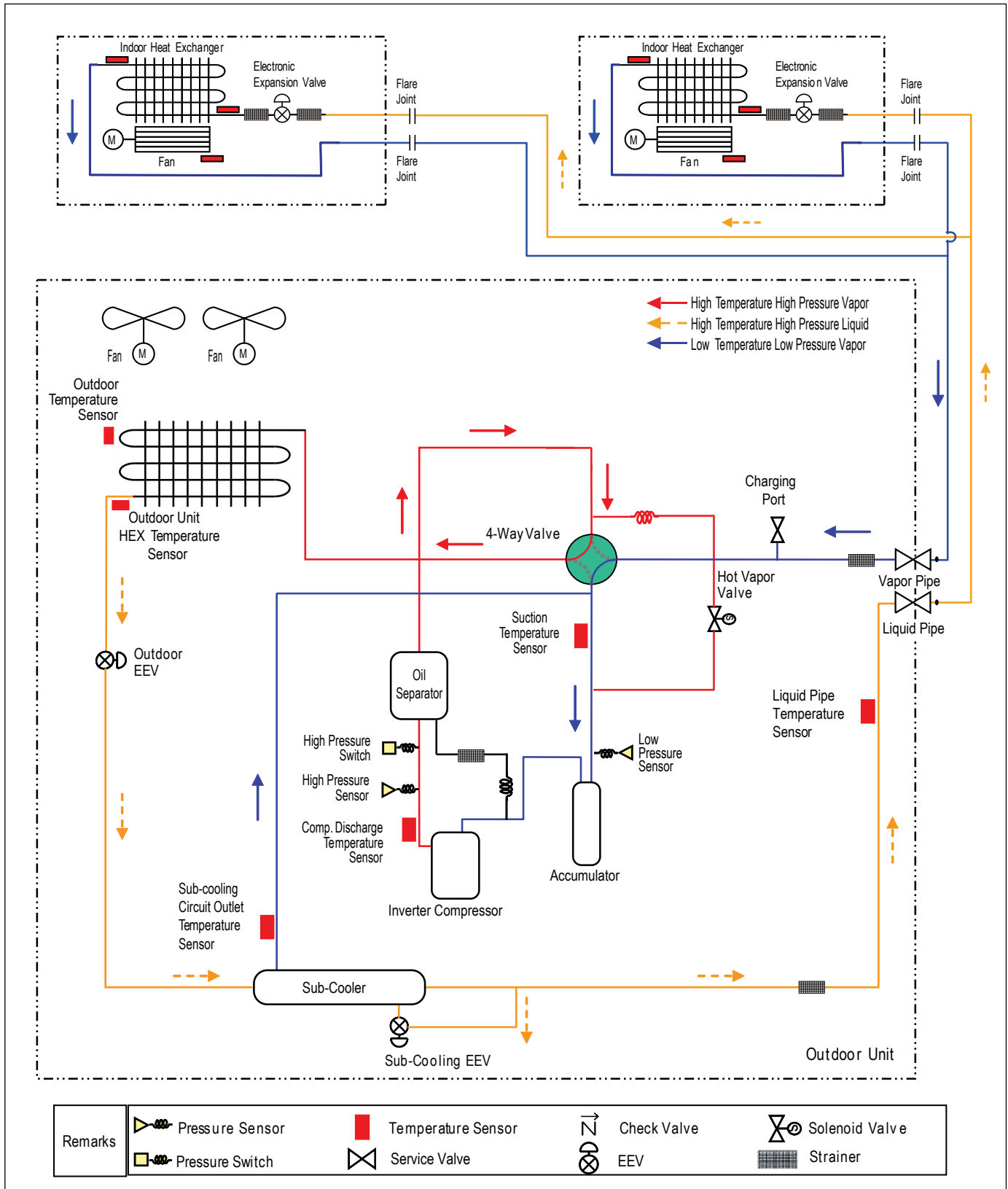
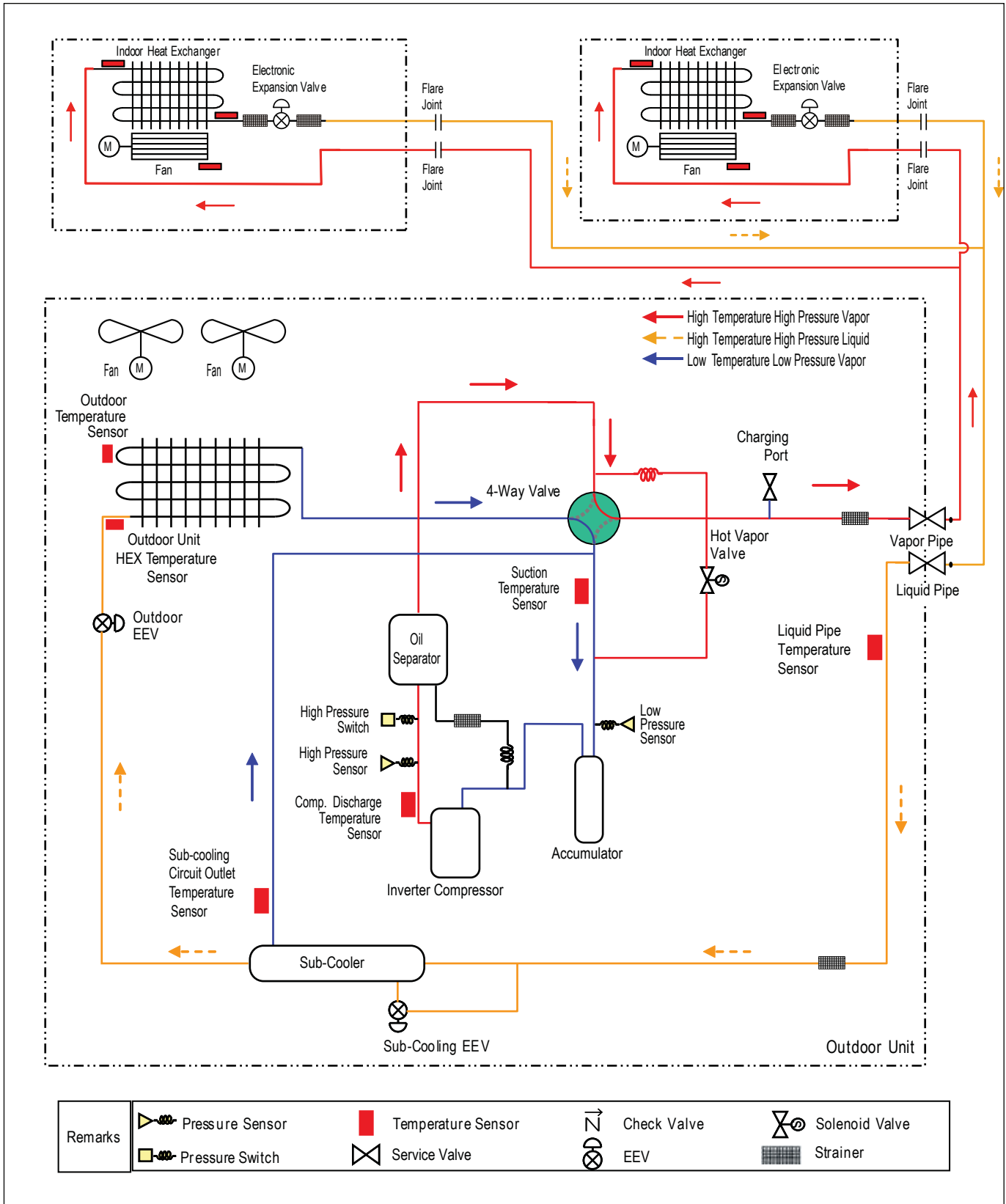


Figure 13: ARUN038GSS4, ARUN048GSS4, ARUN053GSS4 — Heating Mode.



Heat Pump Product Data

REFRIGERANT FLOW DIAGRAMS

ARUN038GSS4, ARUN048GSS4, ARUN053GSS4

Oil Return / Defrost

Figure 14: ARUN038GSS4, ARUN048GSS4, ARUN053GSS4 — Oil Return / Defrost.

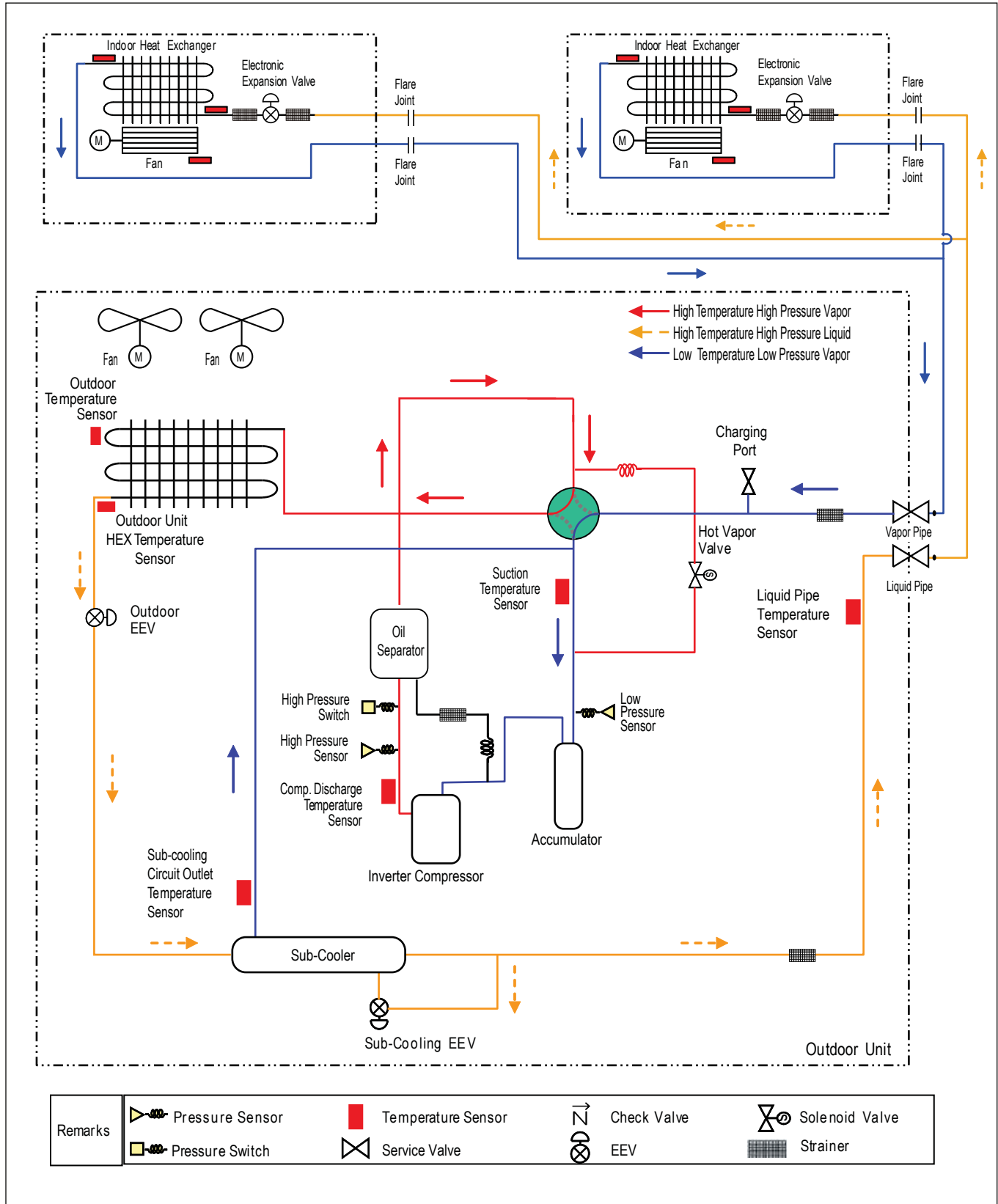
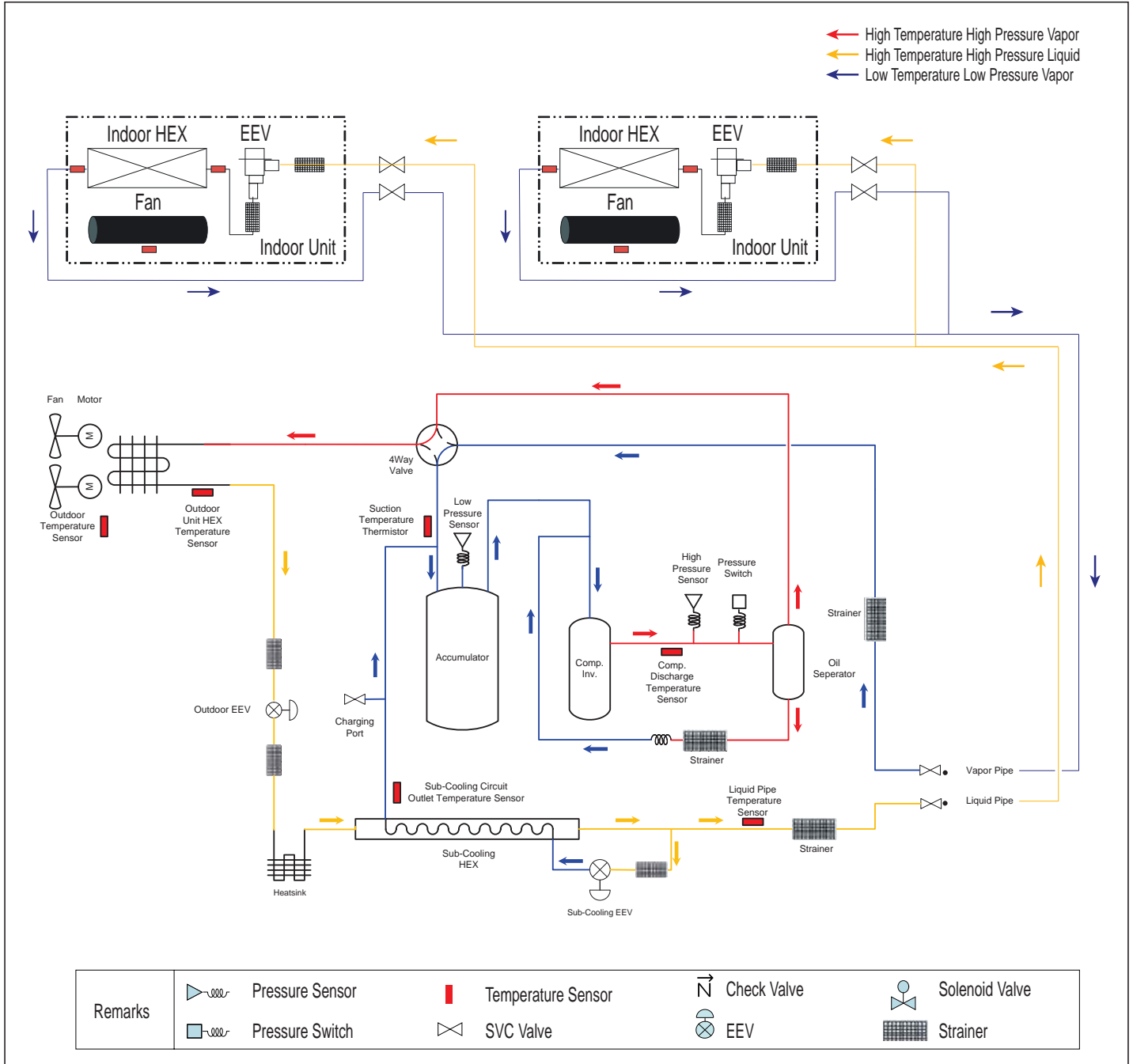


Figure 15: ARUN060GSS4 — Cooling Mode.



REFRIGERANT FLOW DIAGRAMS

ARUN060GSS4

Heating Mode

Figure 16: ARUN060GSS4 — Heating Mode.

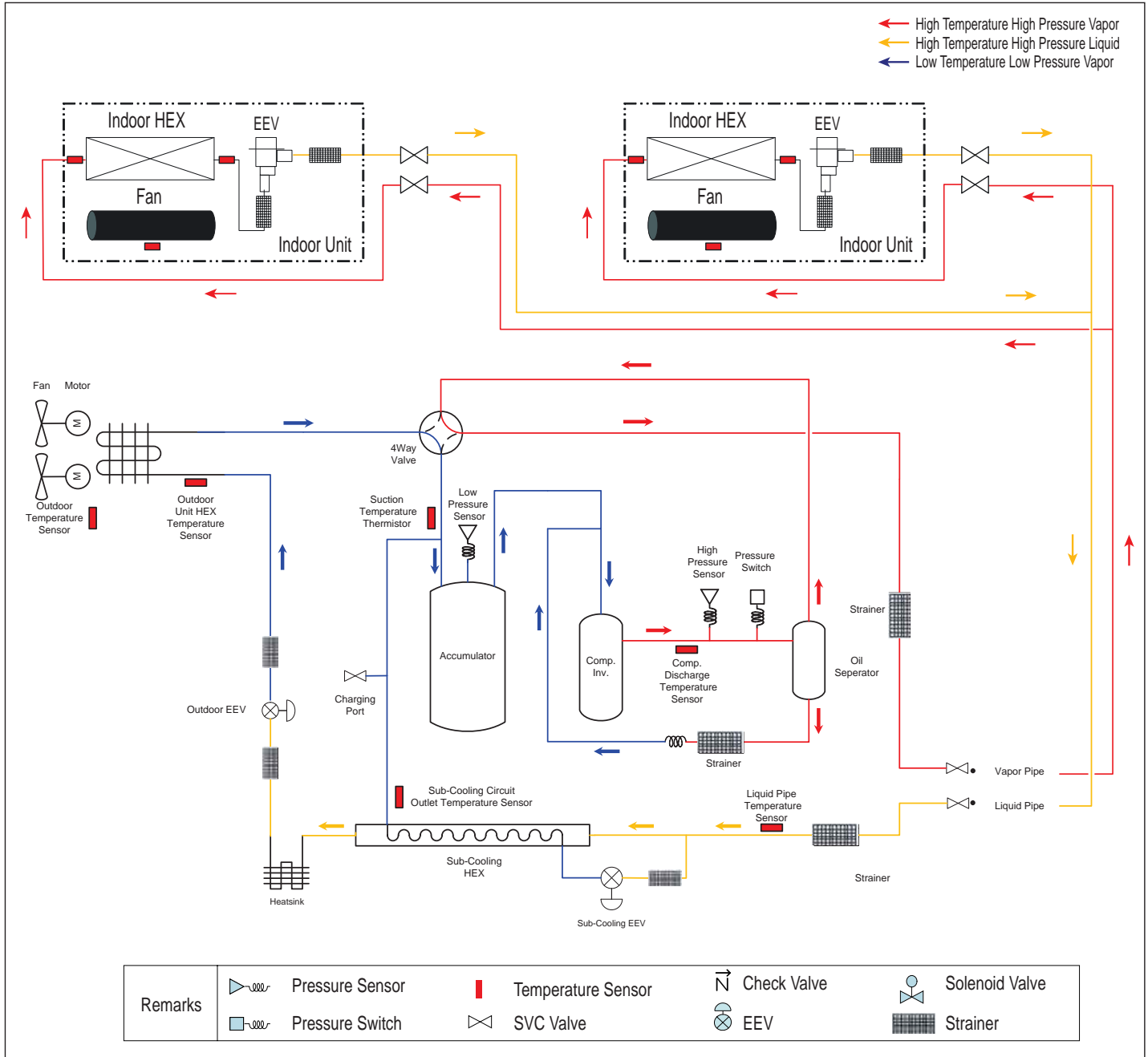
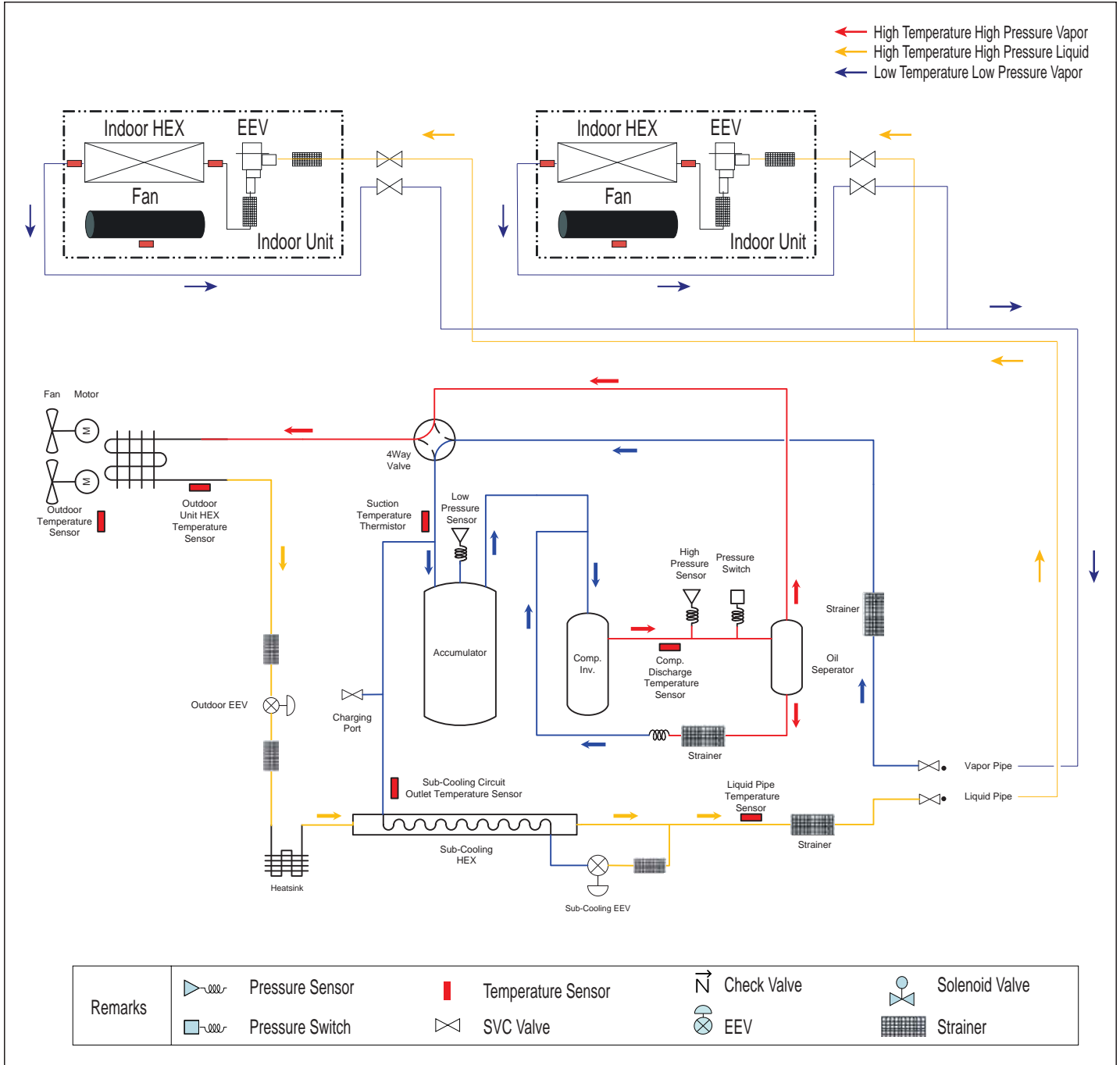
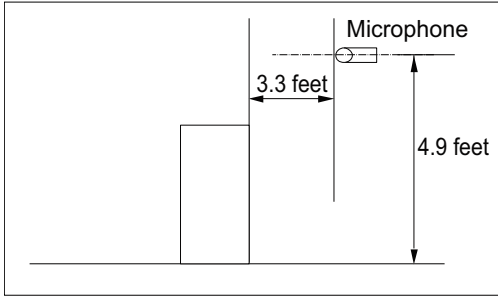


Figure 17: ARUN060GSS4 — Oil Return / Defrost.



Sound Pressure Levels

Figure 18: Acoustic Measurement Location.

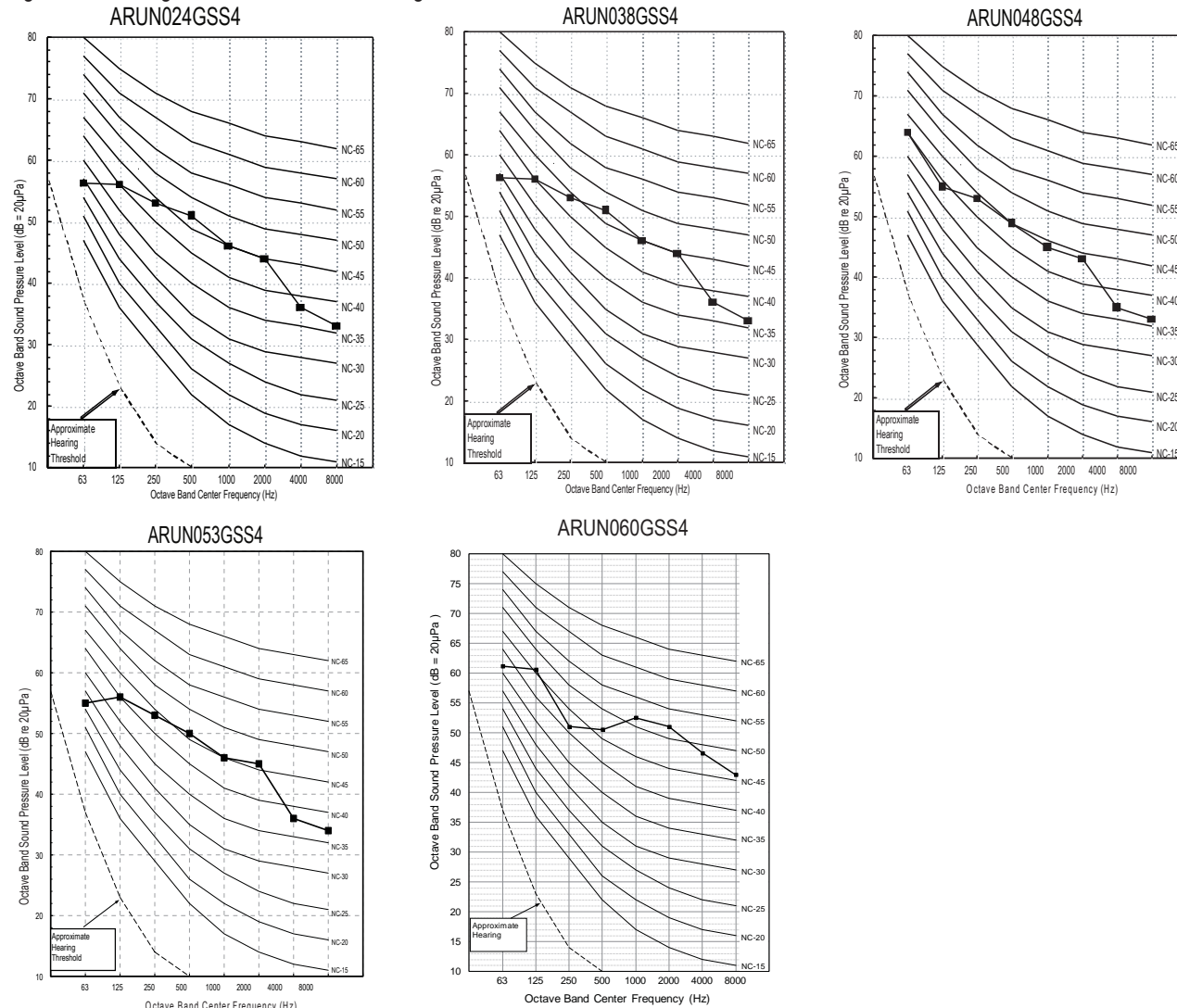


- Measurement taken 4.9' above finished floor, and at a distance of 3.3' from face of fan discharge.
- Measurements taken with no attenuation and units operating at full load normal operating condition.
- Sound level will vary depending on a range of factors such as construction (acoustic absorption 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.

Table 3: Multi V S Outdoor Unit Sound Pressure Levels.

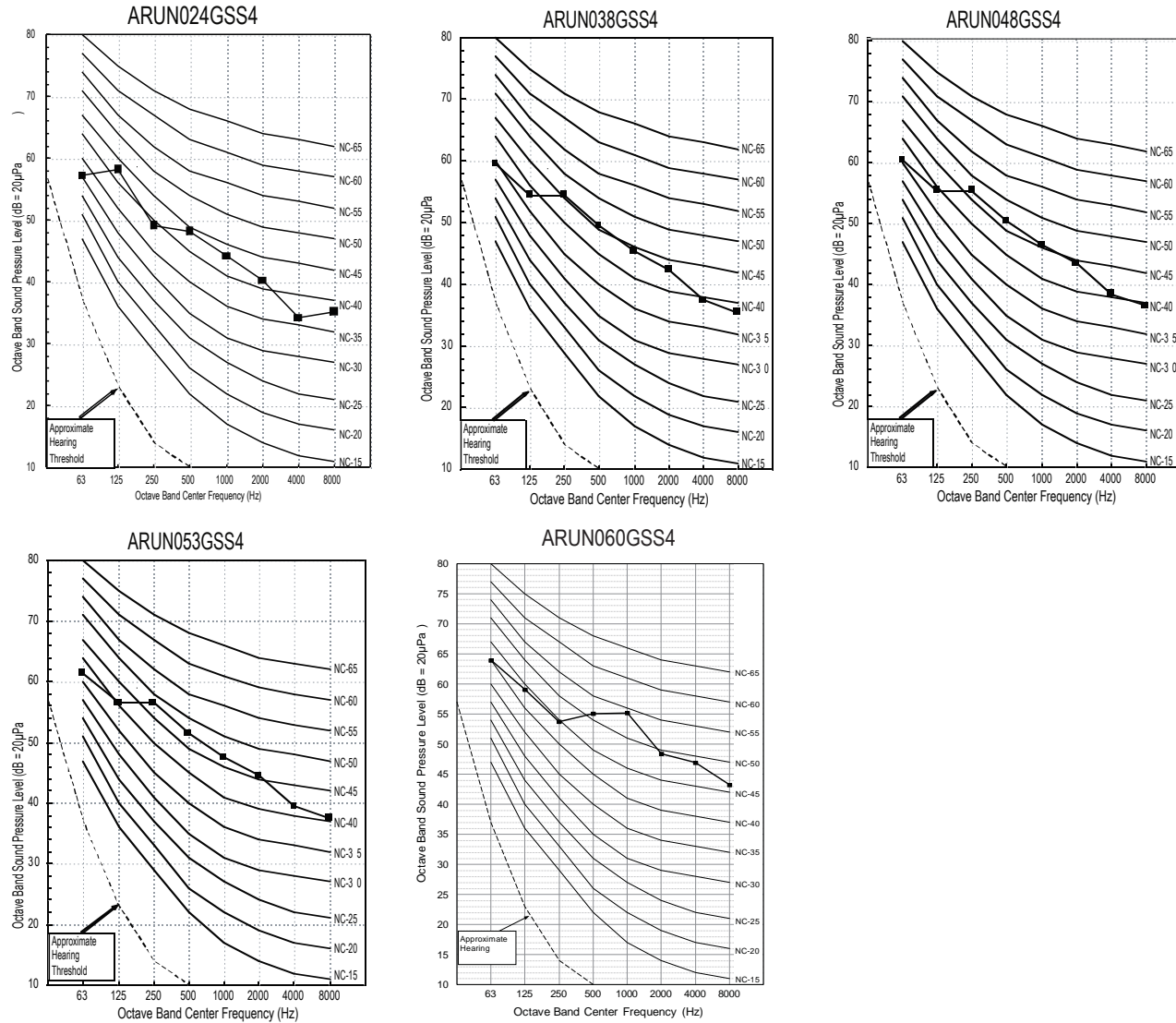
Model	Cooling Operation	Heating Operation
ARUN024GSS4	50	52
ARUN038GSS4	50	52
ARUN048GSS4	51	53
ARUN053GSS4	52	54
ARUN060GSS4	57	59

Figure 19: Cooling Sound Pressure Level Diagrams.



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Figure 20: Heating Sound Pressure Level Diagrams.



ACOUSTIC DATA

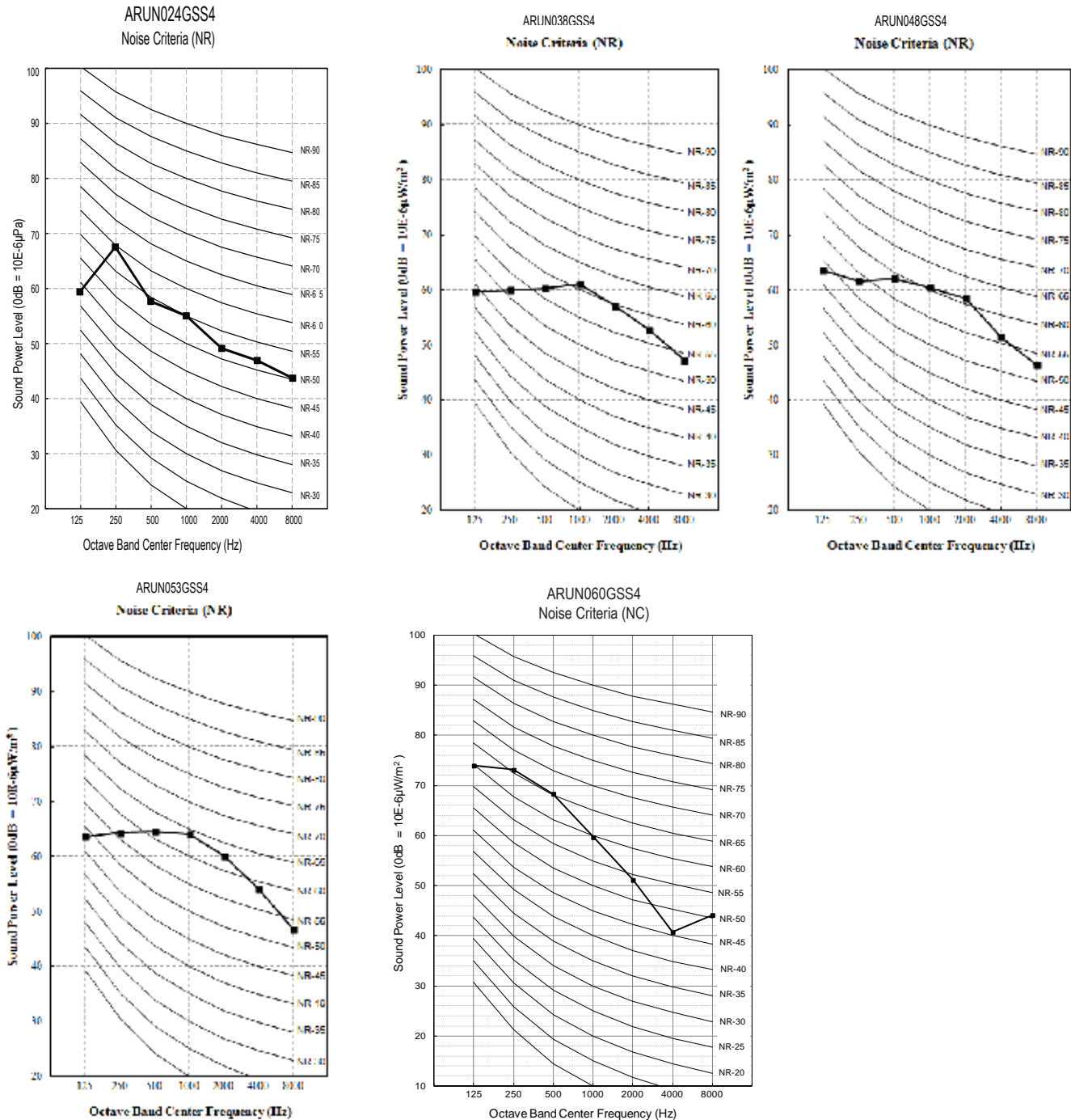
Sound Power Levels

Table 4: Multi V S Outdoor Unit Sound Power Levels.

Models	dB(A)
ARUN024GSS4	62.0
ARUN038GSS4	66.0
ARUN048GSS4	67.0
ARUN053GSS4	69.0
ARUN060GSS4	69.0

- 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/m²

Figure 21: Sound Power Level Diagrams.



Indoor Unit Y-Branches for Heat Pump Systems

Unit: Inch

Models	Vapor pipe	Liquid pipe
ARBLN01621		
ARBLN03321		

Heat Pump Product Data

Headers

Unit: Inch

Models	Vapor pipe	Liquid pipe
4 branch ARBL054		
7 branch ARBL057		
4 branch ARBL104		
7 branch ARBL107		

Low Ambient Wind Baffle Kit

(ZLABGP04A)

Optional low ambient baffle kits allow for Multi V S outdoor unit operation down to -9.9°F in cooling mode.

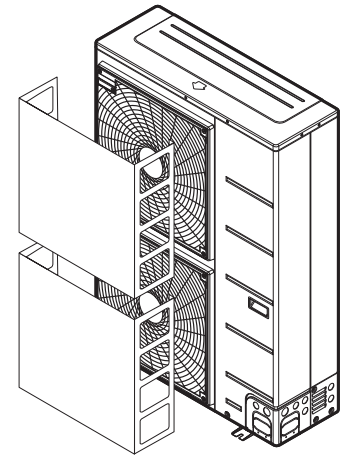
Includes:

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

Use one (1) ZLABGP04A kit with the 2-ton ARUN024GSS4.

Use two (2) ZLABGP04A kits with the 3-ton ARUN038GSS4, 4-ton ARUN048GSS4, 4.4-ton ARUN053GSS4, and the 5-ton ARUN060GSS4.

Contact an LG Sales Representative for more information.



Base Pan Heater

(PQSH1200)

Optional base pan heater is an electric coil installed in the bottom of the outdoor unit chassis intended to prevent ice buildup in extreme winter conditions. The base pan heater is energized when unit is in heating mode, compressor is running, and outdoor ambient temperature drops below 32°F. When the outdoor ambient temperature rises above 32°F, the base pan heater automatically shuts off.

The Base Pan Heater can only be used with the 2-ton ARUN024GSS4 and the 5-ton ARUN060GSS4 heat pump outdoor units.

Contact an LG Sales Representative for more information.

Figure 22: Base Pan Heater.



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
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

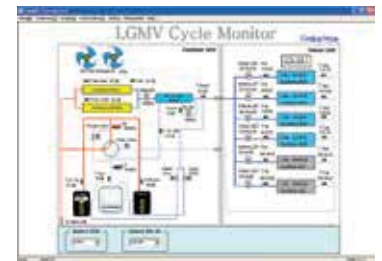


Figure 23: MV Cycleview.

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.

Recommended Minimum PC Configuration:

- CPU: Pentium® IV 1.6 GHz
- Operating System: Windows® NT/2000/XP/Vista
- Main Memory: 256 MB
- Hard Disk: 600 MB when operating
- Web Browser: Internet Explorer® 5.0

LGMV is available in different formats, including Mobile LGMV, which is a app for use on wireless devices. Contact your LG Sales Representative for more information.

HEAT RECOVERY SYSTEM DATA

Mechanical Specifications on page 34

General / Electrical Data on page 36

Dimensions on page 38

Wiring Diagrams on page 42

Refrigerant Flow Diagrams on page 44

Acoustic Data on page 50

Accessories on page 51

MECHANICAL SPECIFICATIONS

MULTI V^S

Multi V S Heat Recovery Outdoor Unit — ARUB060GSS4

Multi V S Outdoor Units

General

An LG Multi V S Heat pump system is a VRF system that can operate in either cooling or heating mode, whereas an LG Multi V S Heat Recovery system is a VRF system that can operate with its indoor units in different modes (heating and cooling) simultaneously. The Heat Recovery unit is capable of being designed for minimum piping and maximum design flexibility. Individual indoor units or zones can change modes (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 listed by Intertek Electrical Testing Laboratories (ETL) and bear the ETL label. Wiring in these units are in accordance with the National Electrical Code (NEC).

Temperature Ranges

Cooling Only or Heating Only Operation

Air-cooled heat pump systems can operate continuously in cooling mode from 23°F to 122°F outdoor ambient dry bulb, and operate continuously in heating only mode (i.e. all indoor units in heating mode) from -13°F to 61°F outdoor ambient wet bulb. Beyond these continuous operating ranges, heating or cooling can be delivered but cycling could occur. (When the optional low ambient cooling baffle [sold separately] has been installed, system minimum cooling operation range is extended [-9.9°F to 122°F]).

Simultaneous Operation

Heat recovery synchronous operation is 14°F to 81°F outdoor ambient dry bulb in cooling, and synchronous operation range is 14°F to 61°F outdoor ambient wet bulb in heating. Beyond these continuous operating ranges, heating or cooling can be delivered but cycling could occur.

Casing / Frame

Outdoor units are constructed with galvanized steel, bonderized and finished with a baked 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 tube-type subcooling heat exchanger and EEV providing refrigerant subcooling modulation up to 23°F.

Compressors

All 1-phase outdoor unit frames are equipped with one hermetic digitally controlled inverter driven scroll compressor to modulated capacity (variable from 20 to 125 Hz, modulate in 1.0 Hz increments).

Outdoor Unit Coil

Outdoor unit coils are of a nonferrous construction with louvered aluminum fins on copper tubing, and are protected with an integral metal guard. Coil fins have a factory applied corrosion resistant GoldFin™ material with 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 850 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 60 Hz, 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, an power lugs.

The control circuit between the indoor units, heat recovery unit(s) (Multi V 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.

Multi V Heat Recovery Units

General

Multi V heat recovery units are for use with Multi V heat recovery outdoor units to permit simultaneous heating and cooling operation. Heat recovery units have two (2), three (3), or four (4) ports for connections to indoor units. Each port is capable of connecting from one (1) indoor unit up to eight (8) indoor units up to a maximum nominal capacity of ≤54 MBh. Individual indoor units ≥54 MBh nominal capacity must use two (2) neighboring heat recovery unit ports twinned together with a Y-branch kit.

Heat recovery ports can operate in heating or cooling mode independently, regardless of the mode of any other port on the unit or in the system except where heat recovery unit ports are twinned. Heat recovery units contain one double spiral subcooling heat exchanger per port, are internally insulated, and do not require a condensate drain.

Casing and Construction

Heat recovery units are completely factory assembled, internally piped, wired, and are designed for indoor installation. Casing is constructed of galvanized steel, and houses piping, valves and controls to divert refrigerant controlling each port to operate in either heating or cooling mode. Heat recovery units contain one double spiral subcooling heat exchanger per port, are internally insulated, and do not require a condensate drain.

Refrigerant Valves

Each heat recovery port is circuited with two two-position solenoid valves to control R410A refrigerant flow path to allow indoor units to operate in heating or cooling mode.

Refrigerant Piping

Units can be piped in series and / or parallel to optimize cost between material and labor. Up to 16 heat recovery units can be piped in series, parallel, or a combination of series and parallel to optimize cost between material and labor. Any series string of heat recovery ports/units can connect up to 192MBh of indoor unit nominal capacity.

- Indoor units up to 131 equivalent feet of piping length from the Heat Recovery unit to which it is connected.
- Indoor units up to 295 equivalent feet of piping length from the first branch.
- Difference between highest and lowest elevation indoor units piped to separate parallel heat recovery units (HRUs) up to 131 feet in elevation.
- Difference between highest and lowest heat recovery units piped in parallel up to 49 feet in elevation.
- Difference between highest and lowest elevation heat recovery units piped in series up to 16 feet in elevation.
- Elevation difference of series connected heat recovery units cannot exceed 16 feet.

Four-port Heat Recovery Unit.



All refrigerant lines from the outdoor unit to the heat recovery units, and from the heat recovery units to the indoor units must be separately field insulated.

Electrical

Heat recovery units require 208-230V, 1-phase, 60 Hz electrical power, and are capable of operation within ±10% of nominal voltage.

Controls

Heat recovery units include factory-installed control boards with integral microprocessors. Heat recovery unit control boards communicate with the main control board in the outdoor unit and interface with the VRF equipment controls system. The control circuit between the indoor units, heat recovery units and the outdoor unit is RS-485 daisy chain communication over two-conductor, twisted, stranded and shielded, 18 AWG cable.

GENERAL DATA



Outdoor Unit Specifications / Electrical Data

Table 5: 208-230V Heat Recovery Outdoor Unit Specifications.

Model Numbers		5.0 Ton ARUB060GSS4
<i>Cooling Performance</i>		
Nominal Cooling Capacity (Btu/h) ¹		60,000
Rated Cooling Capacity (Btu/h) ²		60,000
<i>Heating Performance</i>		
Nominal Heating Capacity (Btu/h) ¹		64,000
Rated Heating Capacity (Btu/h) ²		64,000
<i>Operating Range</i>		
Cooling (°F DB) ³		23 to 122
Heating (°F WB)		-13 to +61
Synchronous — Cooling Based (°F DB)		14°F to 81°F
Synchronous — Heating Based (°F WB)		14°F to 61°F
<i>Compressor</i>		
Inverter Type / Quantity		Hermetically Sealed Scroll / 1
Oil / Type		PVE / FVC68D
<i>Fan (Side Discharge)</i>		
Type		Axial Flow Fan
Motor Output (kW) x Qty.		0.124 x 2
Motor / Drive		Brushless Digitally Controlled / Direct
Operating Range (RPM)	Cooling	0 to 850
	Heating	0 to 850
Maximum Air Volume (CFM)		3,885
<i>Unit Data</i>		
Refrigerant Type		R410A
Refrigerant Control/Location		EEV / Indoor Unit
Max. Number Indoor Units / System ⁴		12
Sound Pressure dB(A) ⁵		57
Net Unit Weight (lbs.)		260
Shipping Weight (lbs.)		291
Communication Cables ^{6,7}		2 x 18
<i>Heat Exchanger</i>		
Material and Fin Coating		Copper Tube / Aluminum Fin and GoldFin™ / Hydrophilic
Rows / Fins per inch		3 / 14
<i>Piping⁸</i>		
Liquid Line Connection (in., OD)		3/8 Braze
High Pressure Vapor Line Connection (in., OD)		5/8 Braze
Low Pressure Vapor Line Connection (in., OD)		3/4 Braze
Factory Charge lbs. of R410A		7.7

¹Nominal 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 80°F dry bulb (DB) and 67°F wet bulb (WB) and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).

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

²Rated capacity is certified under AHRI Standard 20/240. See www.ahrinet.org for information.

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

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

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

⁶Communication cable between ODU, IDUs/Heat Recovery Units, and Central Controller 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.

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

⁸LG 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.

Table 6: 208-230V Heat Recovery 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.		
5.0	ARUB060GSS4	1	19.5	2	0.5 x 2	25.4	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.





Figure 19: Two-Port Heat Recovery Unit.



Figure 20: Three-Port Heat Recovery Unit.



Figure 21: Four-Port Heat Recovery Unit.

Note:

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

Table 7: Heat Recovery Unit Specifications.

Model		PRHR022A	PRHR032A	PRHR042A	
Number of Ports		2	3	4	
Max. Connectible No. of Indoor Units		16	24	32	
Max. Connectible No. of Indoor Units on each port		8	8	8	
Max. Port Capacity (each port)	Btu/h	54,000	54,000	54,000	
Max. Unit Capacity (sum of ports)	Btu/h	192,000	192,000	192,000	
Net Weight	lbs.	40	45	49	
Dimensions (W x H x D)	inches	17-7/8 x 8-5/8 x 18-15/16			
Casing		Galvanized steel plate			
Connecting Pipes	To Indoor Units	Liquid Pipe (inches)	3/8		
		Vapor Pipe (inches)	5/8		
	To Outdoor Units	Liquid (inches)	3/8	1/2	5/8
		Low-pressure Vapor (inches)	7/8	1-1/8	1-1/8
		High-pressure Vapor (inches)	3/4	7/8	7/8
Insulation Material		Polyethylene			
Current	Minimum Circuit Amps (MCA)	0.1	0.15	0.2	
	Maximum Fuse Amps (MFA)	15			
Power Supply		1Ø, 208-230V, 60Hz			

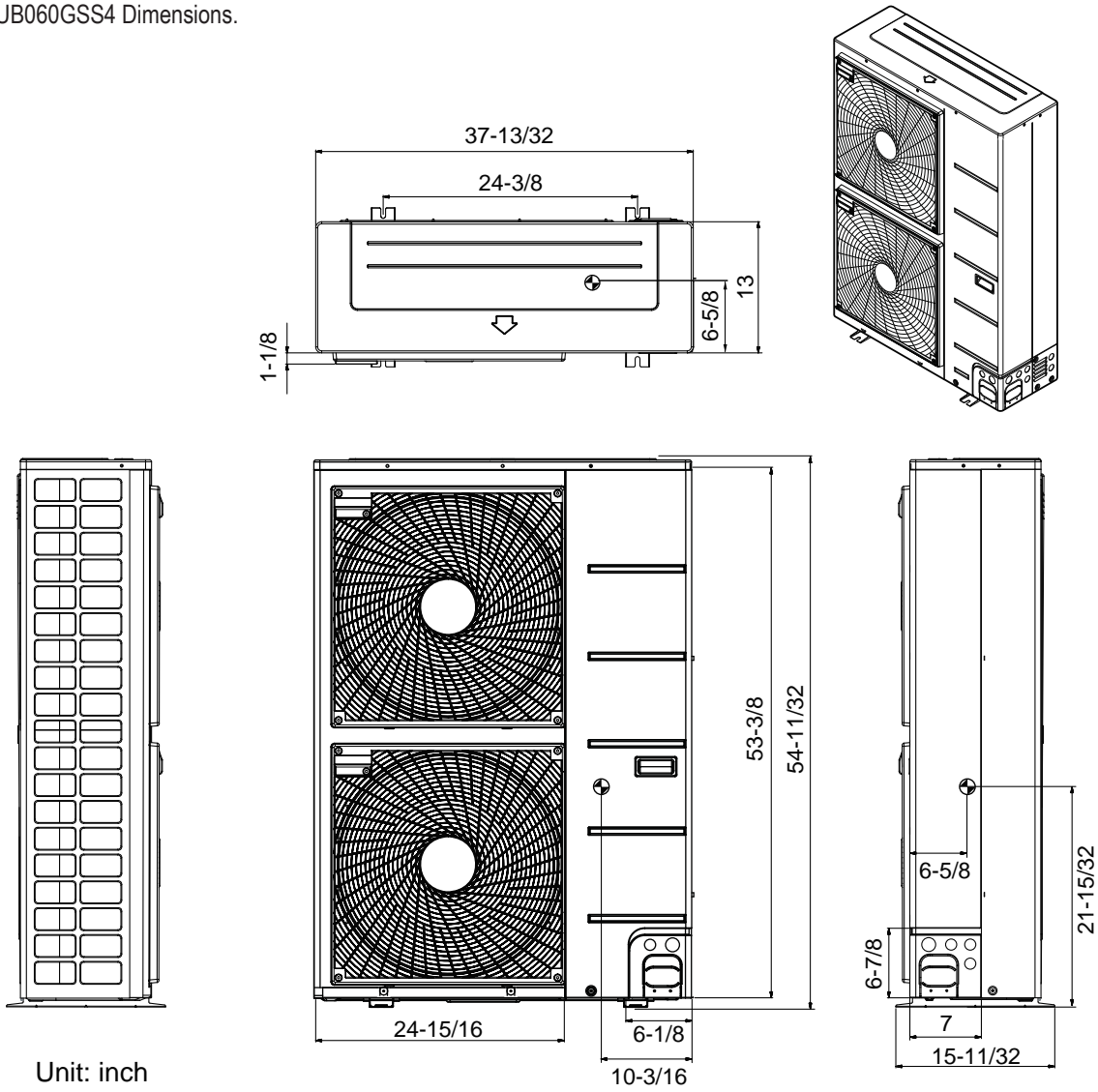
Table 8: Heat Recovery Unit Electrical Data.

Unit Model No.	V / Hz / Ph	Input (kW)	
		Cooling	Heating
PRHR022A	208-230 / 60 / 1	0.026	0.026
PRHR032A	208-230 / 60 / 1	0.033	0.033
PRHR042A	208-230 / 60 / 1	0.040	0.040

DIMENSIONS

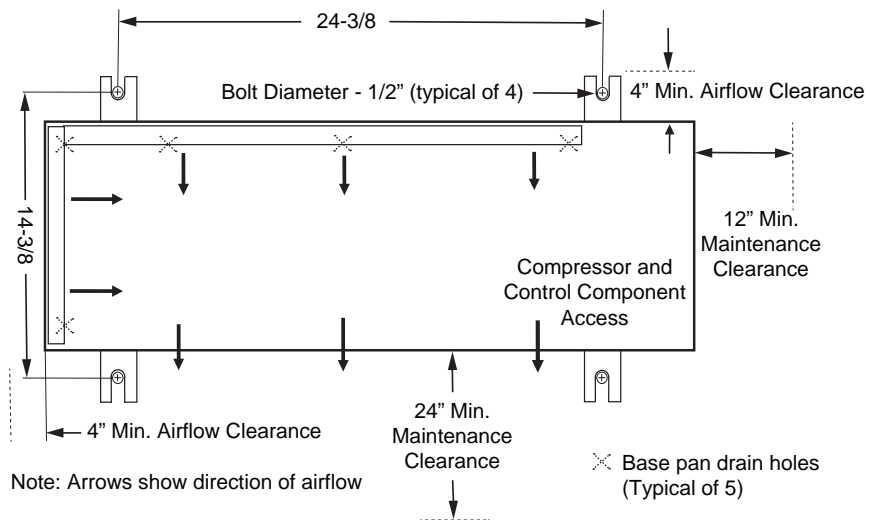
Outdoor Unit — ARUB060GSS4

Figure 22: ARUB060GSS4 Dimensions.



Unit: inch

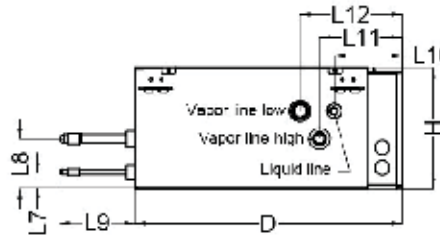
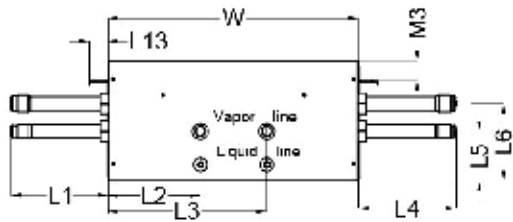
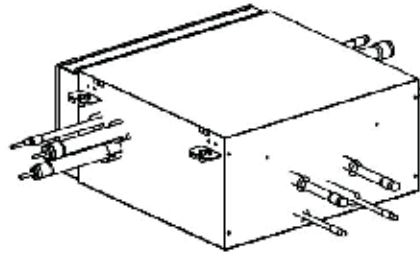
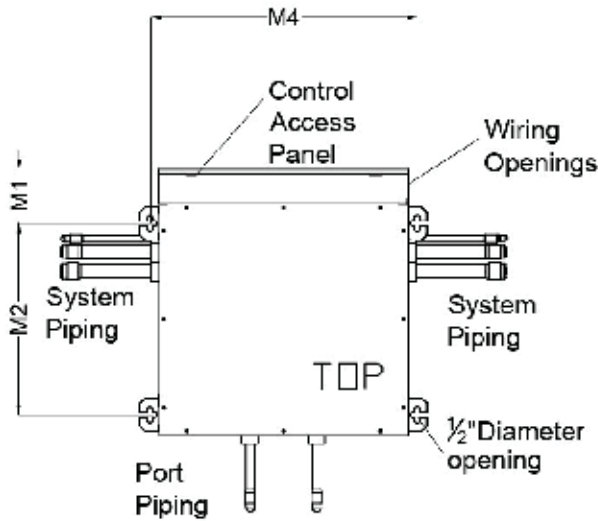
⊕ Center of Gravity



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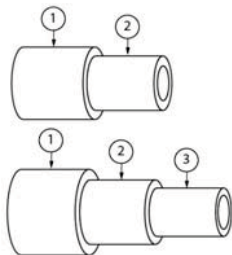
HEAT RECOVERY UNIT DIMENSIONS

Heat Recovery Unit — PRHR022A



W	17-7/8"
H	8-5/8"
D	18-15/16"
L1	6-7/8"
L2	6-5/8"
L3	11-3/8"
L4	6-7/8"
L5	3-1/2"
L6	5-1/2"
L7	1-3/16"
L8	3-9/16"
L9	5-7/16"
L10	4-3/4"
L11	5-3/4"
L12	7-1/4"
L13	1-1/4"
M1	3-3/4"
M2	13-5/8"
M3	1-1/2"
M4	18-15/16"

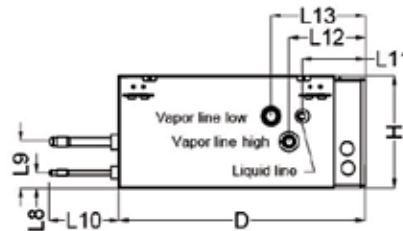
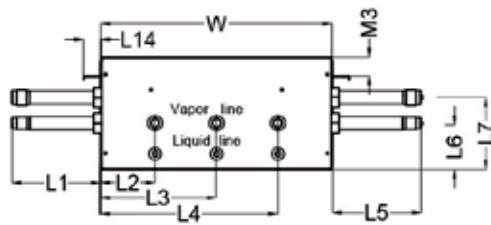
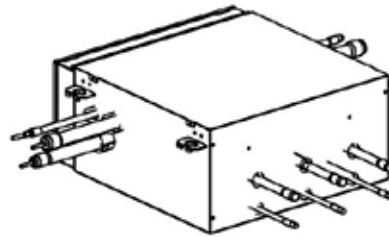
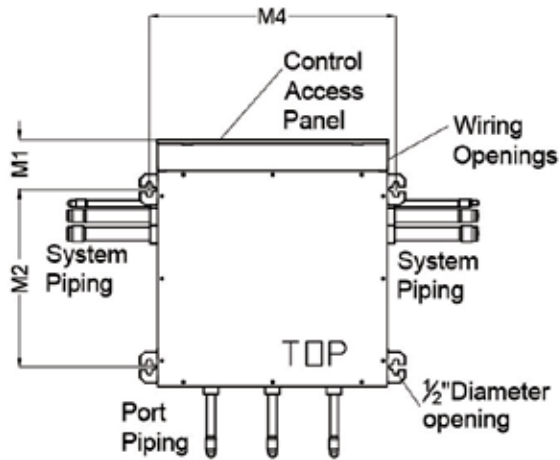
Heat Recovery System Product Data



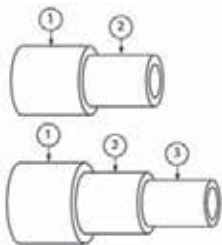
Reducer Dimensions (in)					
		1	2	3	Quantity
Indoor Unit	Liquid Line	3/8 OD	1/4 OD	-	2
	Vapor Line	5/8 OD	1/2 OD	-	2
HR Unit	Liquid Line	3/8 OD	1/4 OD	-	2
	Vapor Line Low	5/8 OD	1/2 OD	-	2
		7/8 OD	3/4 OD	5/8 OD	2
	Vapor Line High	1/2 OD	3/8 OD	-	2
3/4 OD		5/8 OD	1/2 OD	2	

DIMENSIONS

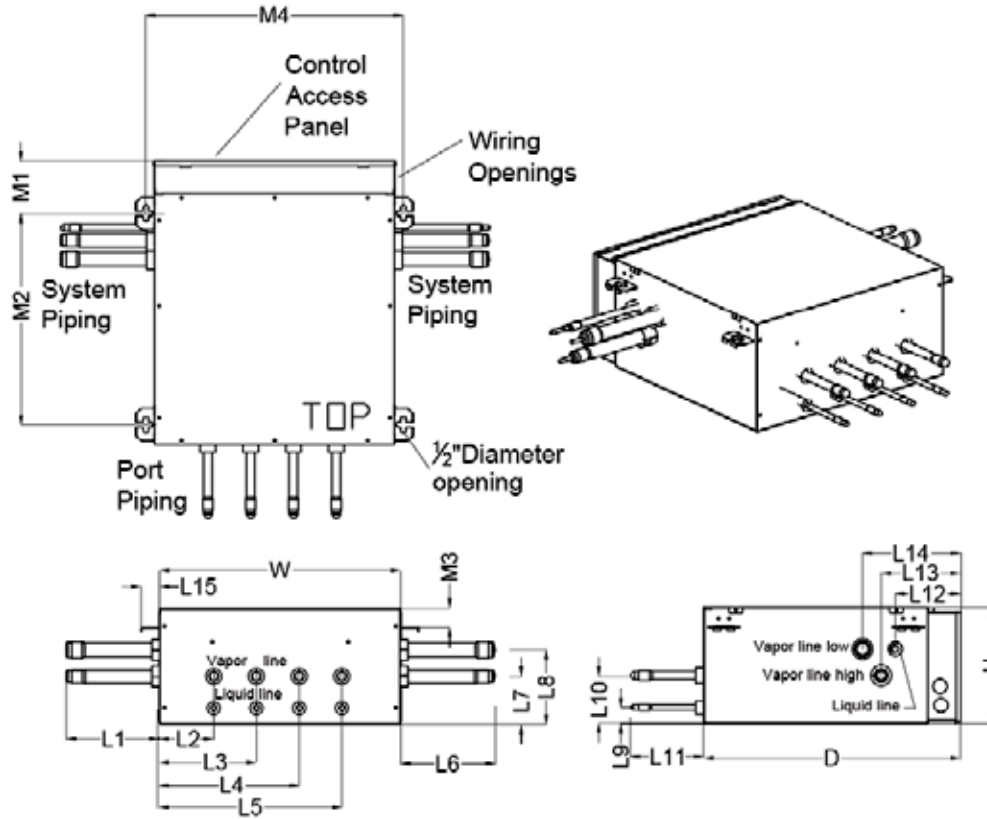
Heat Recovery Unit — PRHR032A



W	17-7/8"
H	8-5/8"
D	18-15/16"
L1	6-7/8"
L2	4-1/4"
L3	9"
L4	13-3/4"
L5	6-7/8"
L6	3-1/2"
L7	5-1/2"
L8	1-3/16"
L9	3-9/16"
L10	5-7/16"
L11	4-3/4"
L12	5-3/4"
L13	7-1/4"
L14	1-1/4"
M1	3-3/4"
M2	13-5/8"
M3	1-1/2"
M4	18-15/16"

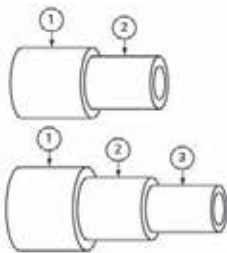


Reducer Dimensions (in)					
		1	2	3	Quantity
Indoor Unit	Liquid Line	3/8 OD	1/4 OD	-	3
	Vapor Line	5/8 OD	1/2 OD	-	3
HR Unit	Liquid Line	1/2 OD	3/8 OD	-	2
	Vapor Line Low	3/4 OD	5/8 OD	-	2
		1-1/8 OD	7/8 OD	3/4 OD	2
	Vapor Line High	5/8 OD	1/2 OD	-	2
7/8 OD		3/4 OD	5/8 OD	2	



W	17-7/8"
H	8-5/8"
D	18-15/16"
L1	6-7/8"
L2	4-1/4"
L3	7-1/2"
L4	10-1/2"
L5	13-3/4"
L6	6-7/8"
L7	3-1/2"
L8	5-1/2"
L9	1-3/16"
L10	3-9/16"
L11	5-7/16"
L12	4-3/4"
L13	5-3/4"
L14	7-1/4"
L15	1-1/4"
M1	3-3/4"
M2	13-5/8"
M3	1-1/2"
M4	18-15/16"

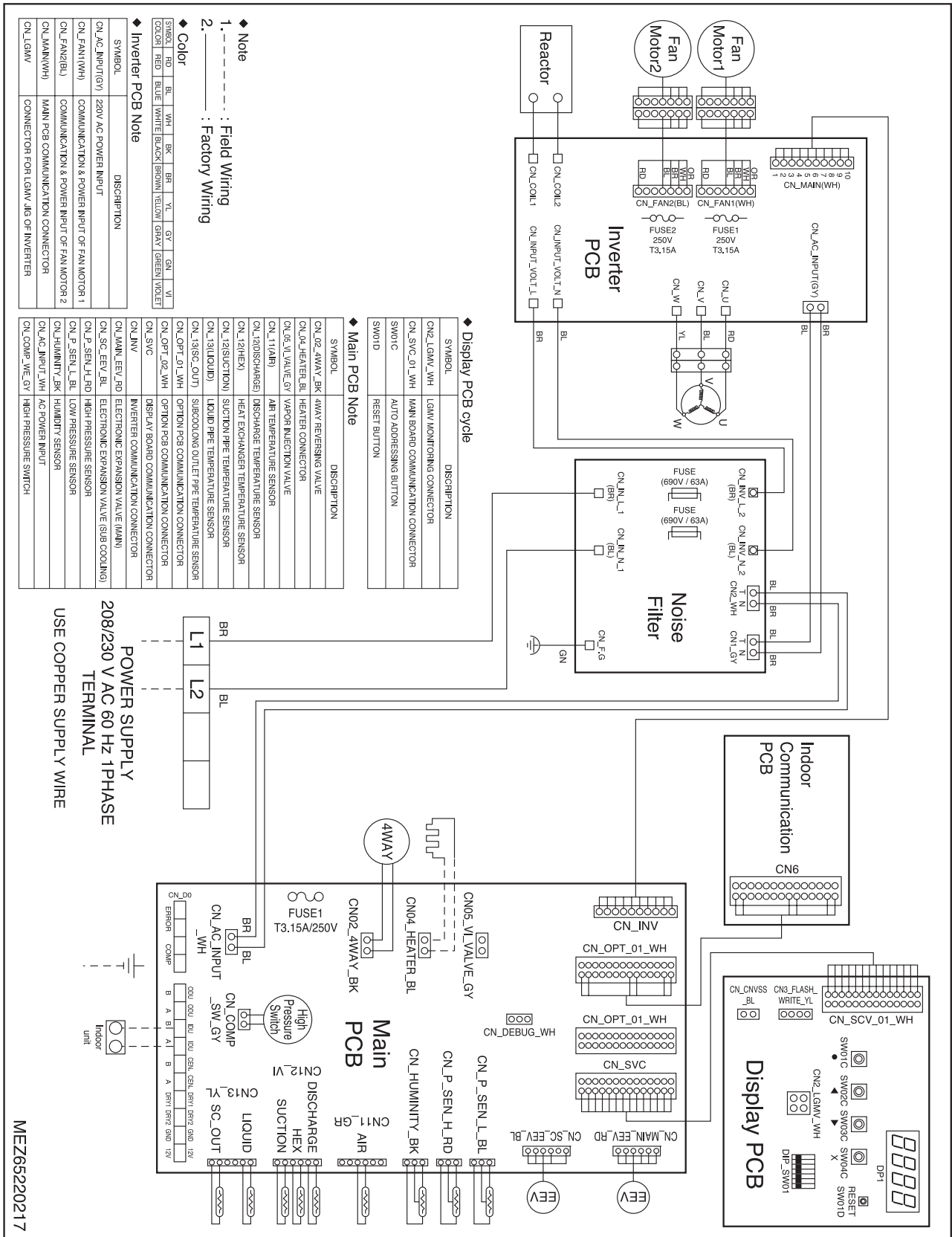
Heat Recovery System Product Data



Reducer Dimensions (in)					
		1	2	3	Quantity
Indoor Unit	Liquid Line	3/8 OD	1/4 OD	-	4
	Vapor Line	5/8 OD	1/2 OD	-	4
HR Unit	Liquid Line	1/2 OD	3/8 OD	-	2
	Vapor Line Low	3/4 OD	5/8 OD	-	2
		1-1/8 OD	7/8 OD	3/4 OD	2
	Vapor Line High	5/8 OD	1/2 OD	-	2
7/8 OD		3/4 OD	5/8 OD	2	

WIRING DIAGRAM

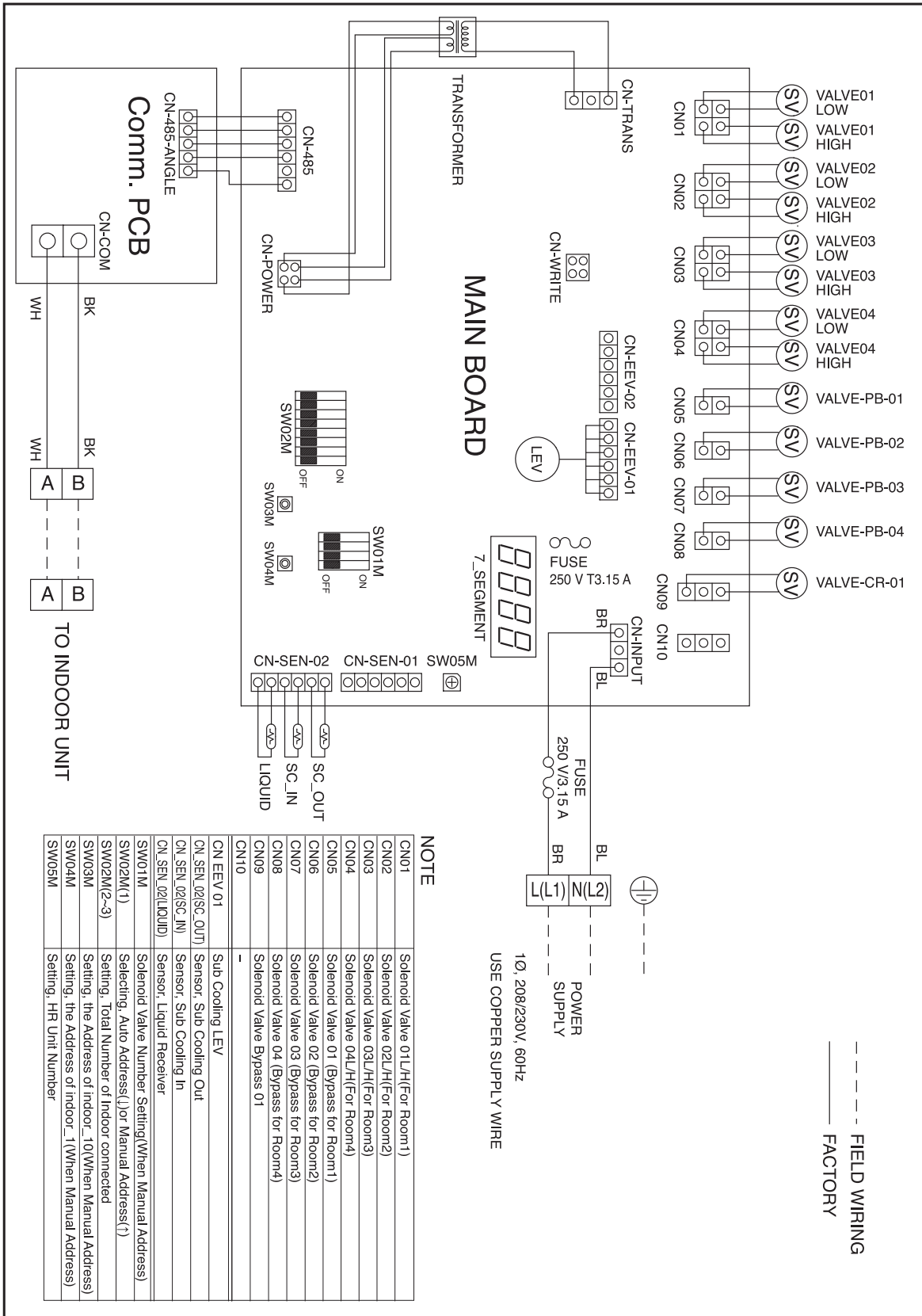
Outdoor Unit — ARUB060GSS4



MEZ65220217

Due to our policy of continuous product innovation, some specifications may change without notification.
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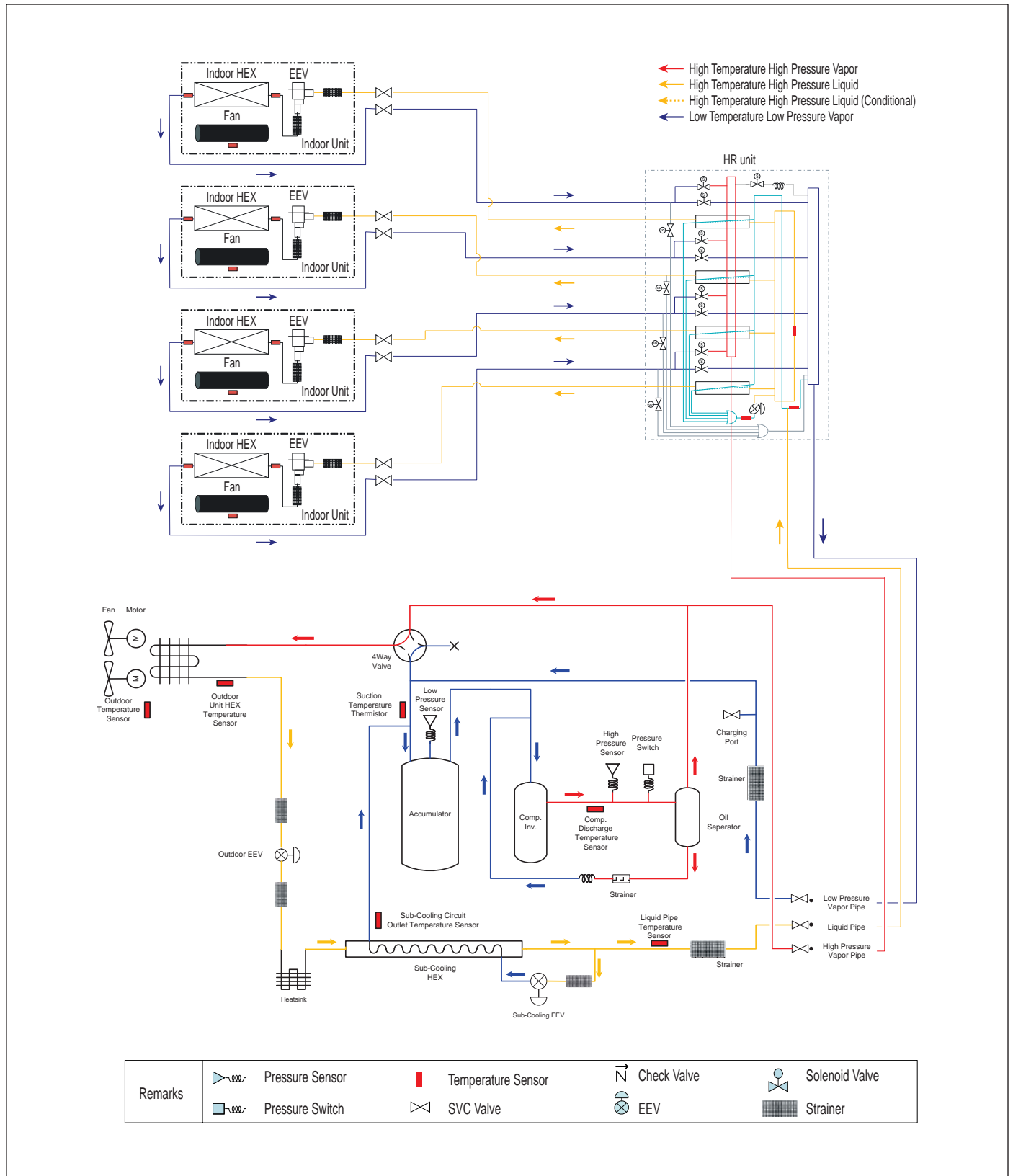


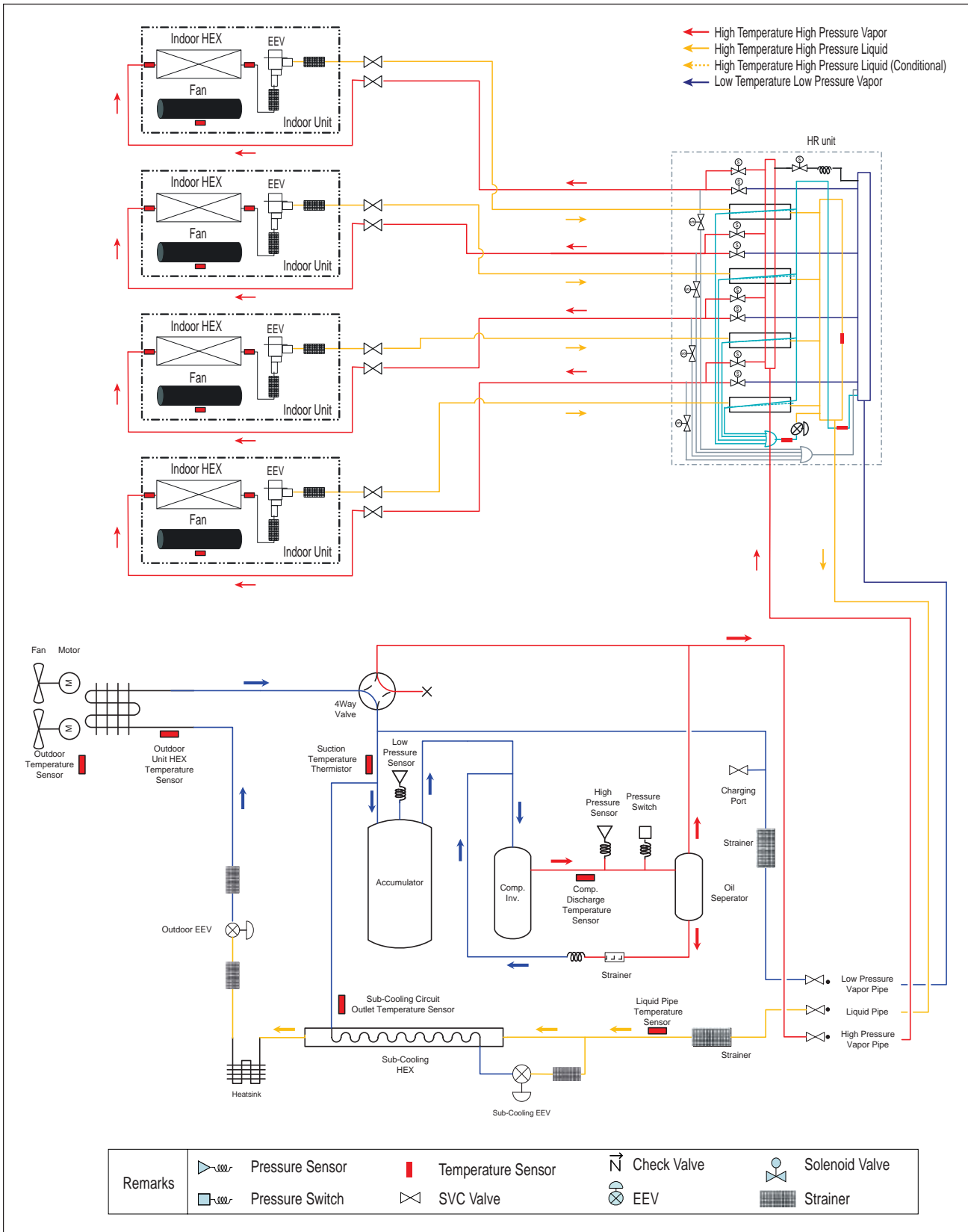


REFRIGERANT FLOW DIAGRAMS

Outdoor Unit — ARUB060GSS4

Cooling Mode



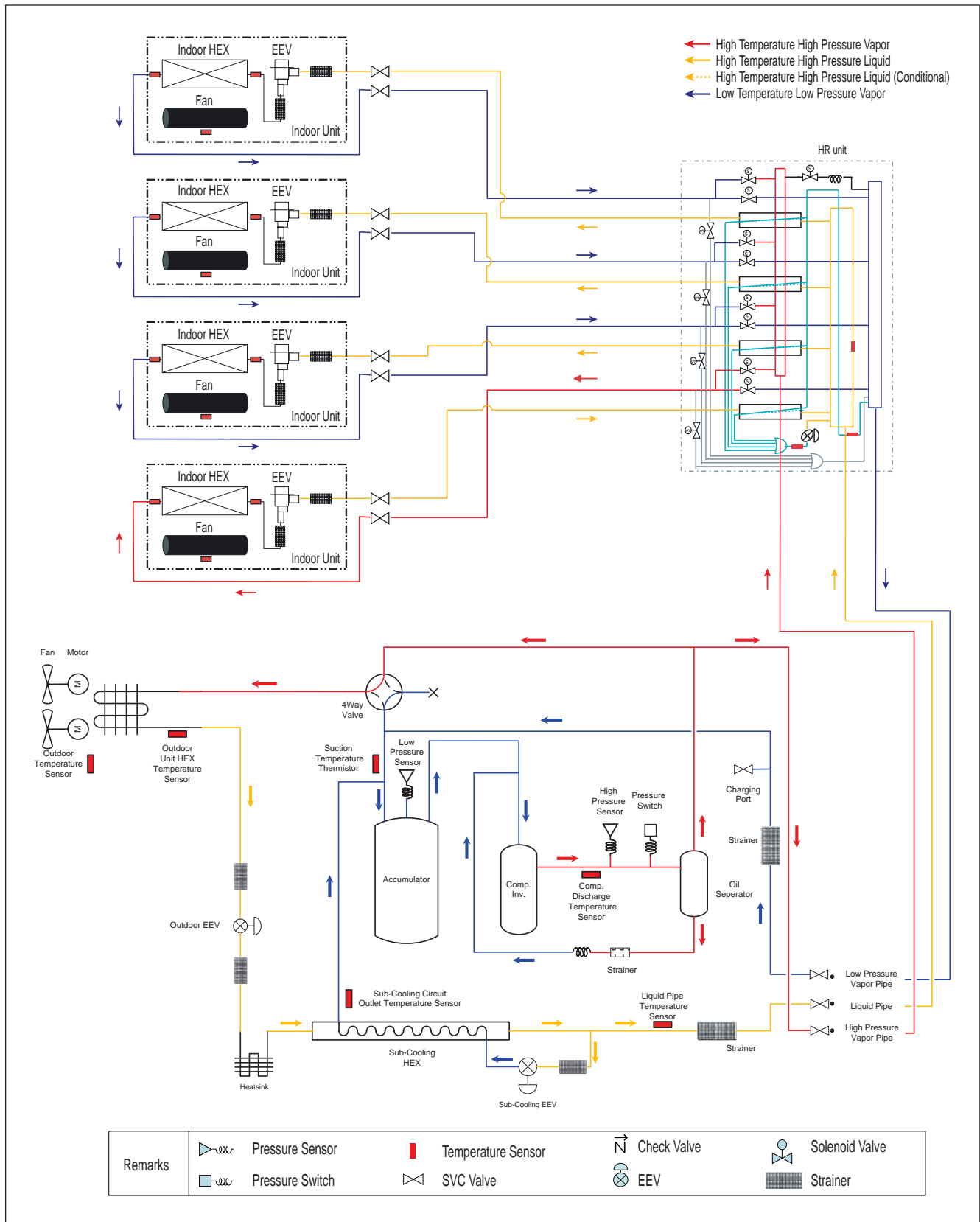


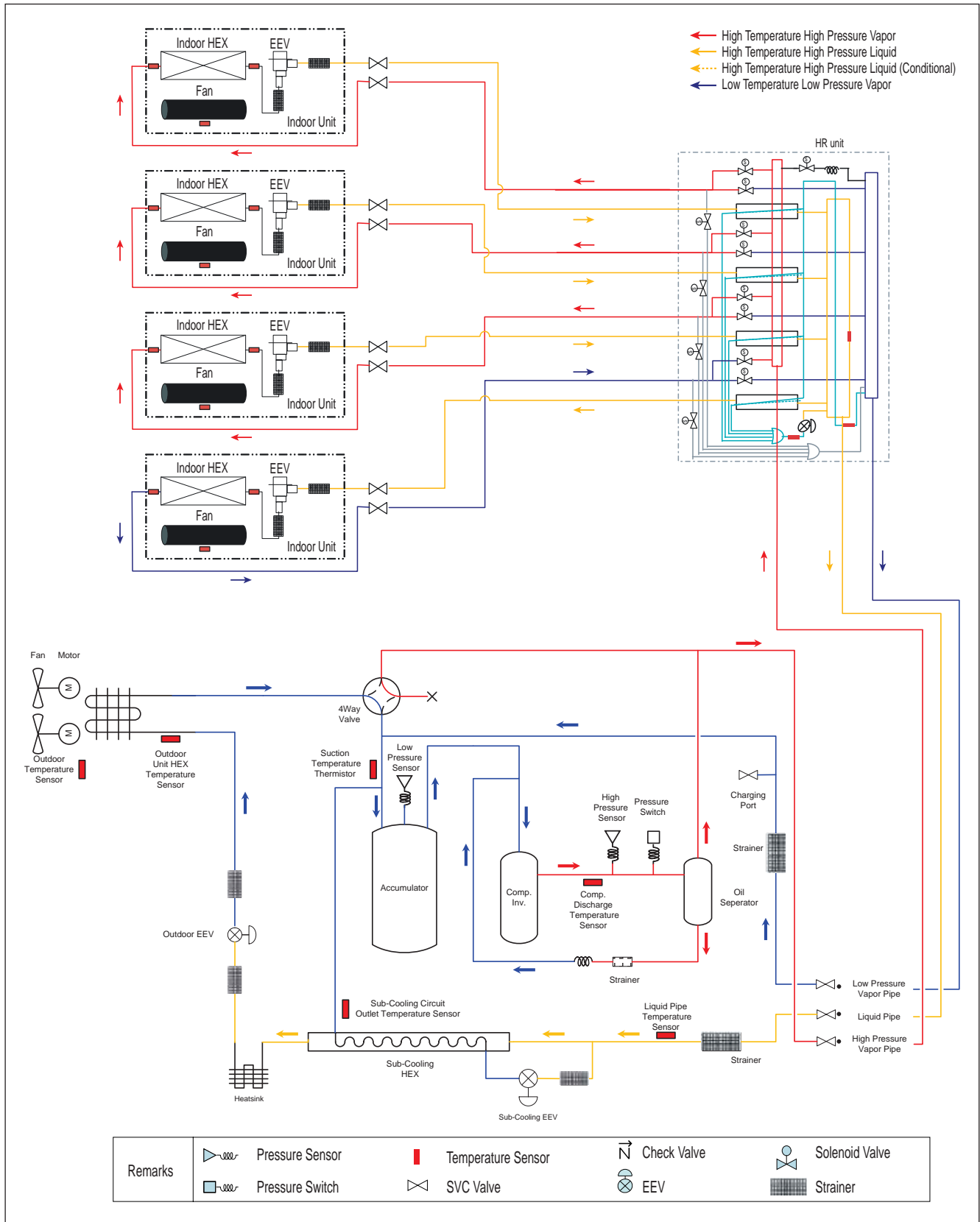
Heat Recovery System Product Data

REFRIGERANT FLOW DIAGRAMS

Outdoor Unit — ARUB060GSS4

Cooling-Based Simultaneous Mode





Heat Recovery System Product Data

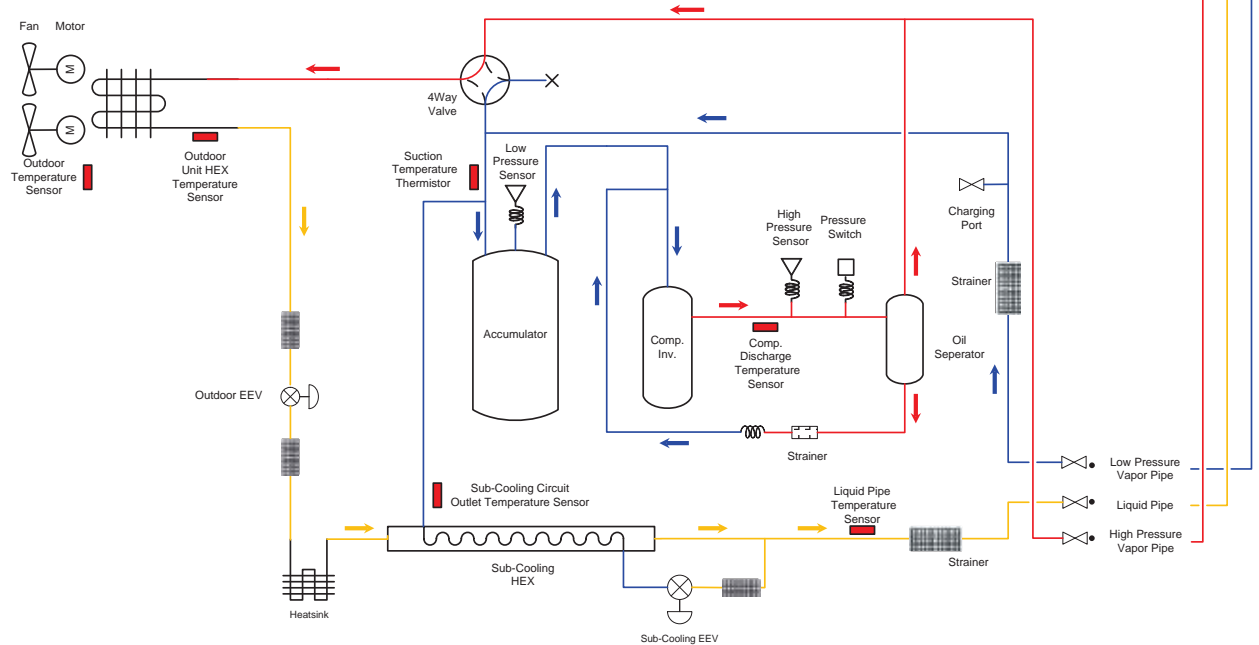
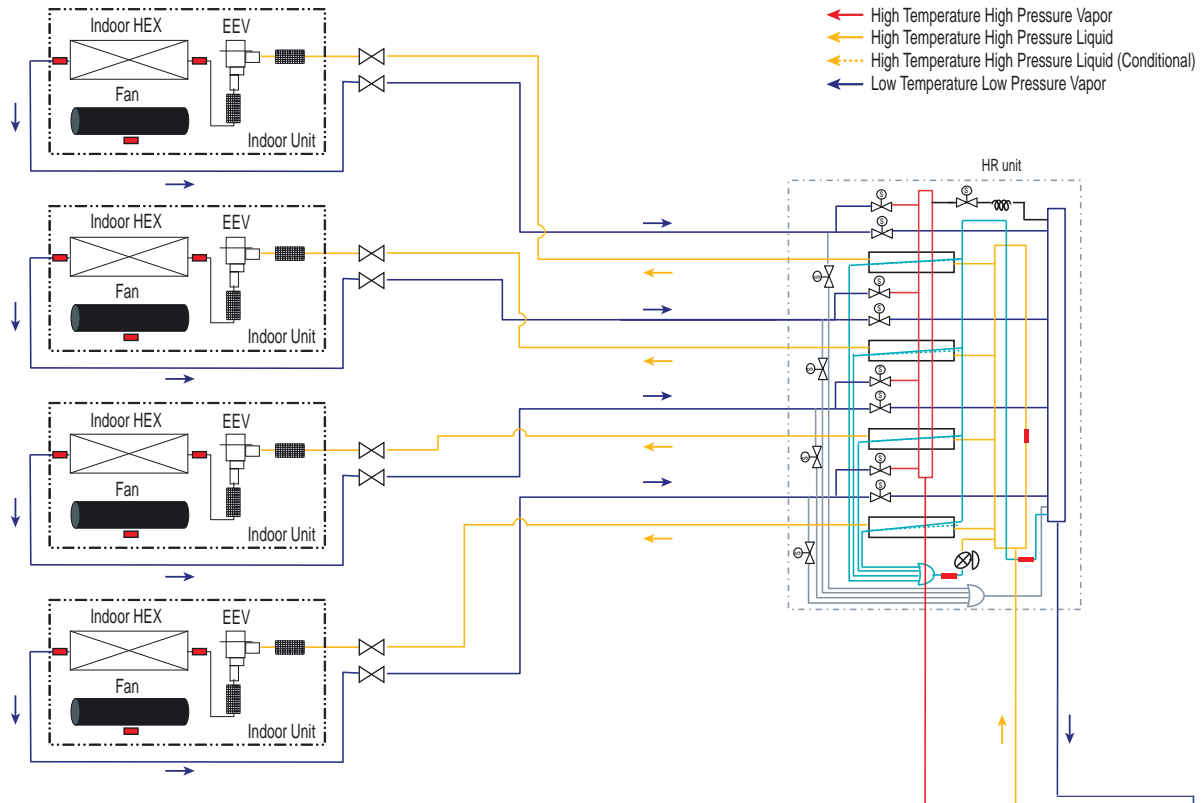
REFRIGERANT FLOW DIAGRAMS



Outdoor Unit — ARUB060GSS4

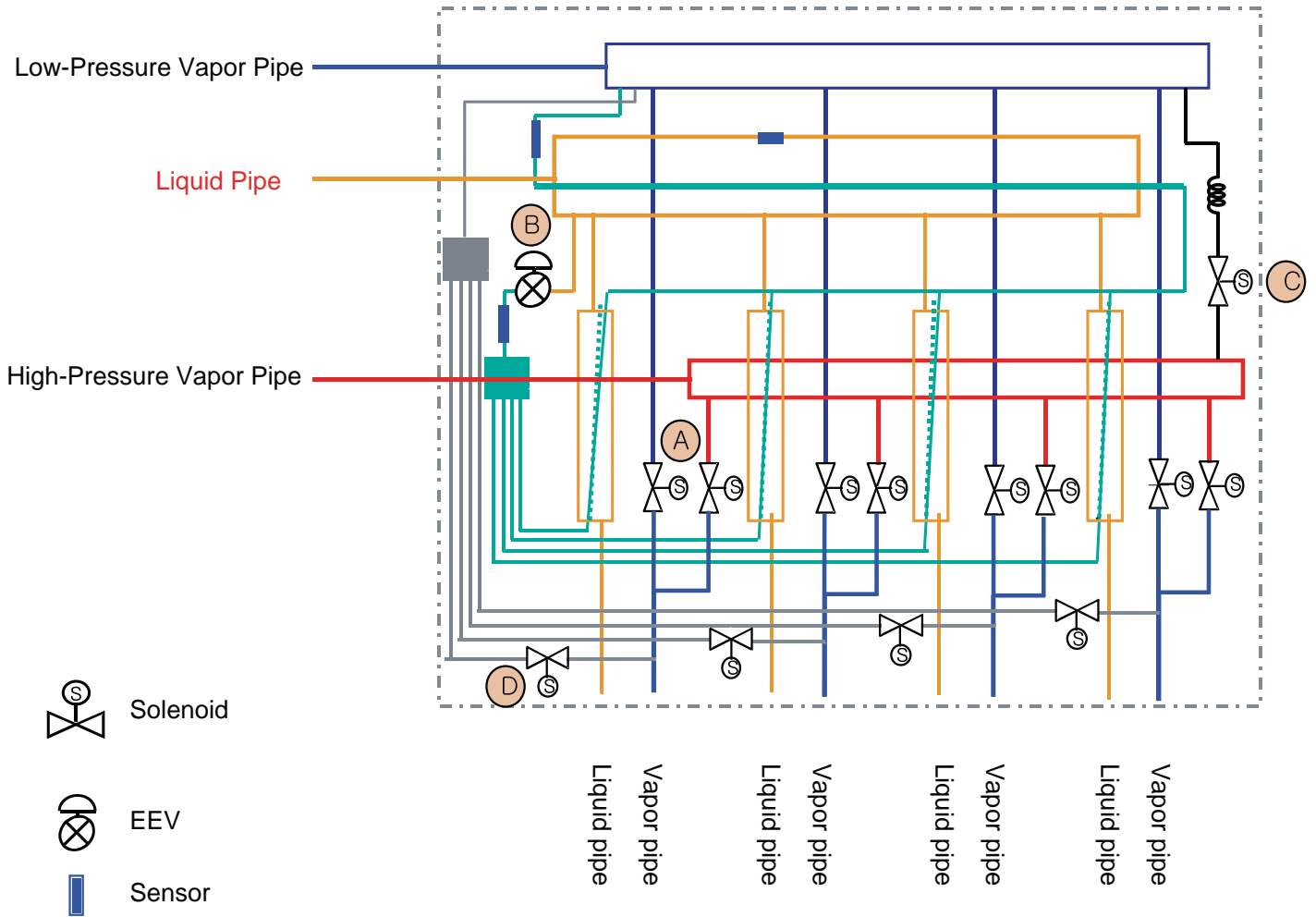
Oil Return and Defrost

MULTI V S Outdoor Unit Engineering Manual



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





A : Switch operation between cooling and heating.

B : Decreases noise following subcooling operation between inlet of one indoor unit and outlet of another indoor unit during simultaneous operation.

C : Prevents liquid from entering high-pressure vapor valve and heat recovery unit during cooling mode.

D : Controls pressure between the high and low pressure vapor pipes during simultaneous operation.

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 23: Acoustic Measurement Location.

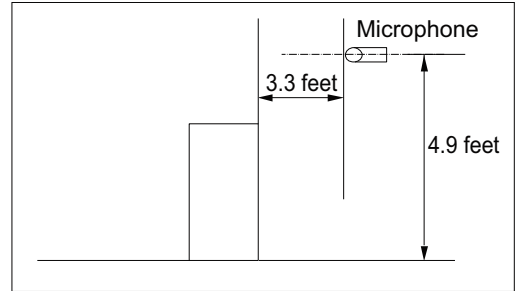


Table 9: Multi V S Heat Recovery Outdoor Unit Sound Pressure Levels.

Model	Cooling Operation	Heating Operation
ARUB060GSS4	57	59

Figure 24: Cooling Sound Pressure Levels.

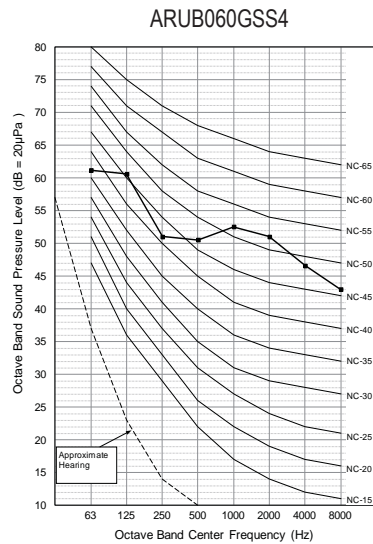
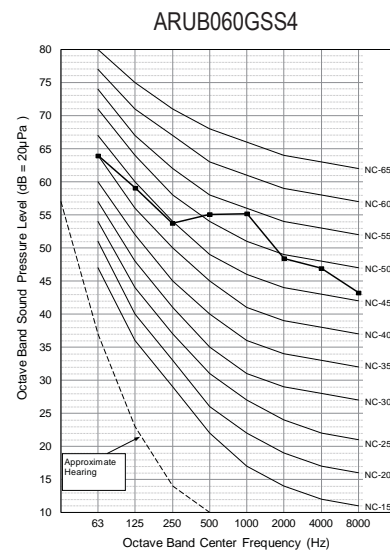


Figure 25: Heating Sound Pressure Levels.



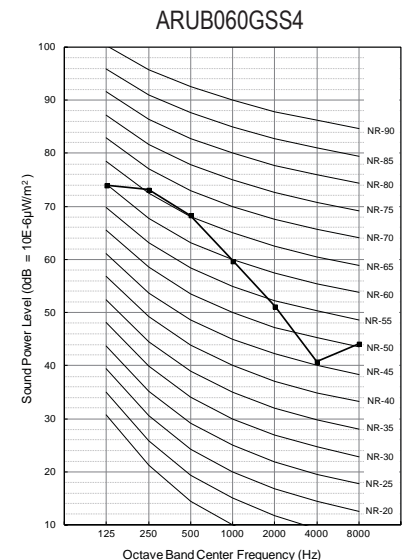
Sound Power Levels

- 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/m²

Table 10: Multi V S Heat Recovery Outdoor Unit Sound Power Levels.

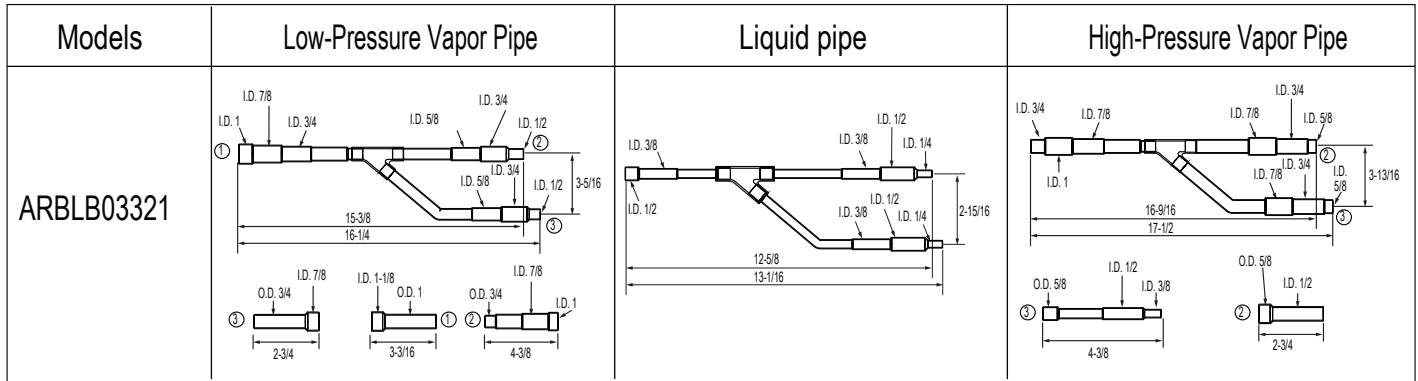
Models	dB(A)
ARUB060GSS4	69

Figure 26: Sound Power Level Diagram.



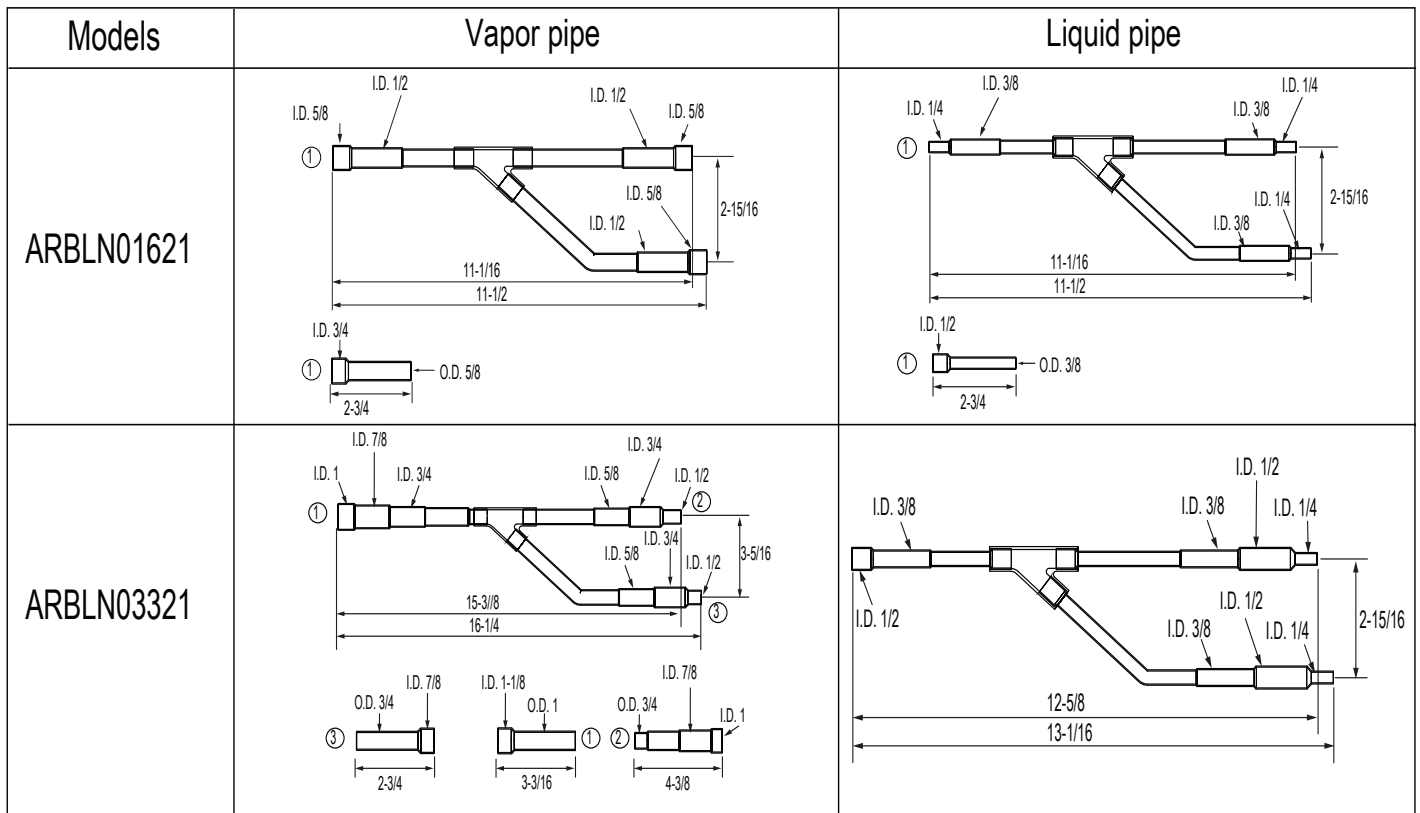
Y-branch for Outdoor Unit to Heat Recovery Unit Connection

Unit: Inch



Y-Branches from Heat Recovery Units to Indoor Units

Unit: Inch



Headers

Unit: Inch

Models	Vapor pipe	Liquid pipe
4 branch ARBL054		
7 branch ARBL057		
4 branch ARBL104		
7 branch ARBL107		

Combining Heat Recovery Ports for Large Indoor Units

It is necessary to combine two ports on a system designed for heat recovery operation when installing a single indoor unit with a capacity exceeding 54,000 Btu/h. Two neighboring heat recovery ports are combined using a reverse Y-branch that is then connected to the one large indoor unit.

Unit: Inch

Kit Model No.	Vapor Pipe Dimensions	Vapor Pipe Model No.	Liquid Pipe Dimensions	Liquid Pipe Model No.
ARBLN03321		AJR54072906		AJR54072902

Low Ambient Wind Baffle Kit

(ZLABGP04A)

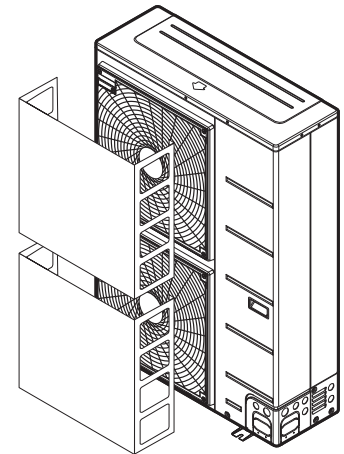
Optional low ambient baffle kits allow for Multi V S outdoor unit operation down to -9.9°F in cooling mode. When used with heat recovery operation, low ambient cooling to -9.9°F is possible only when all indoor units are operating in cooling mode. The low ambient wind baffle kit does not impact synchronous 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 5-ton ARUB060GSS4.

Contact an LG Sales Representative for more information.



Base Pan Heater

(PQSH1200)

Optional base pan heater is an electric coil installed in the bottom of the outdoor unit chassis intended to prevent ice buildup in extreme winter conditions. The base pan heater is energized when unit is in heating mode, compressor is running, and outdoor ambient temperature drops below 32°F. When the outdoor ambient temperature rises above 32°F, the base pan heater automatically shuts off.

The Base Pan Heater can be used with the 5-ton ARUB060GSS4 heat recovery outdoor unit.

Contact an LG Sales Representative for more information.

Figure 27: Base Pan Heater.



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
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

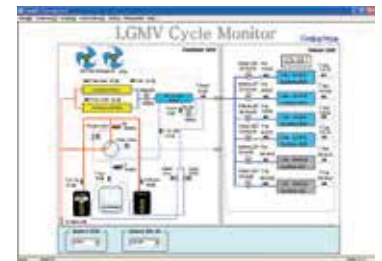


Figure 28: MV Cycleview.

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.

Recommended Minimum PC Configuration:

- CPU: Pentium® IV 1.6 GHz
- Operating System: Windows® NT/2000/XP/Vista
- Main Memory: 256 MB
- Hard Disk: 600 MB when operating
- Web Browser: Internet Explorer® 5.0

LGMV is available in different formats, including Mobile LGMV, which is a app for use on wireless devices. Contact your LG Sales Representative for more information.

PERFORMANCE DATA

[Cooling Capacity Data on page 56](#)

[Heating Capacity Data on page 86](#)

COOLING CAPACITY DATA



ARUN024GSS4

24,000 Btu/h 208-230V Heat Pump Units

MULTI V S Outdoor Unit Engineering Manual

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
130%	-9.9	21.8	0.49	25.9	0.59	30.1	0.70	31.2	0.76	31.7	0.82	32.8	0.94	33.6	0.97
	-5	21.8	0.51	25.9	0.62	30.1	0.74	31.2	0.80	31.7	0.86	32.8	0.99	33.6	1.02
	0	21.8	0.53	25.9	0.65	30.1	0.77	31.2	0.83	31.7	0.90	32.8	1.03	33.6	1.06
	5	21.8	0.55	25.9	0.67	30.1	0.80	31.2	0.86	31.7	0.93	32.8	1.06	33.6	1.10
	10	21.8	0.57	25.9	0.69	30.1	0.82	31.2	0.89	31.7	0.96	32.8	1.09	33.6	1.13
	14	21.8	0.59	25.9	0.72	30.1	0.85	31.2	0.92	31.7	0.99	32.8	1.13	33.6	1.17
	20	21.8	0.60	25.9	0.73	30.1	0.86	31.2	0.93	31.7	1.00	32.8	1.15	33.6	1.19
	25	21.8	0.61	25.9	0.74	30.1	0.87	31.2	0.94	31.7	1.02	32.8	1.16	33.6	1.20
	30	21.8	0.62	25.9	0.75	30.1	0.88	31.2	0.95	31.7	1.03	32.8	1.18	33.6	1.22
	35	21.8	0.62	25.9	0.76	30.1	0.89	31.2	0.97	31.7	1.04	32.8	1.19	33.6	1.23
	40	21.8	0.63	25.9	0.76	30.1	0.90	31.2	0.98	31.7	1.05	32.8	1.20	33.6	1.25
	45	21.8	0.64	25.9	0.77	30.1	0.91	31.2	0.99	31.7	1.06	32.8	1.22	33.6	1.26
	50	21.8	0.65	25.9	0.78	30.1	0.92	31.2	1.00	31.7	1.07	32.8	1.23	33.6	1.27
	55	21.8	0.66	25.9	0.79	30.1	0.94	30.8	1.02	31.2	1.09	32.3	1.25	33.1	1.28
	60	21.8	0.68	25.9	0.82	29.7	0.98	30.1	1.06	30.5	1.14	31.6	1.29	32.3	1.30
	65	21.8	0.69	25.9	0.84	29.2	1.00	29.7	1.08	30.0	1.16	31.1	1.33	31.9	1.34
	70	21.8	0.67	25.9	0.81	28.7	0.99	29.0	1.09	29.5	1.20	30.5	1.33	31.3	1.35
	75	21.8	0.68	25.9	0.86	28.3	1.06	28.6	1.17	29.0	1.29	30.1	1.40	30.9	1.41
	80	21.8	0.77	25.9	0.98	27.5	1.22	27.8	1.34	28.3	1.48	29.3	1.52	30.1	1.53
	85	21.8	0.82	25.9	1.05	27.0	1.30	27.5	1.43	27.8	1.57	28.9	1.58	29.7	1.59
	90	21.8	0.93	25.5	1.19	26.3	1.48	26.6	1.63	27.0	1.69	28.1	1.70	28.9	1.72
	95	22.1	0.99	25.3	1.27	26.1	1.58	26.5	1.74	26.9	1.75	27.9	1.77	28.7	1.78
100	22.1	1.07	24.9	1.37	25.6	1.71	26.1	1.83	26.4	1.84	27.6	1.86	28.4	1.88	
105	22.1	1.21	24.2	1.55	25.0	1.93	25.4	1.97	25.7	1.98	26.6	2.00	27.0	2.02	
110	22.1	1.36	23.2	1.75	24.2	2.10	24.2	2.11	24.6	2.12	25.1	2.14	25.2	2.16	
115	21.9	1.57	22.3	2.01	22.3	2.22	22.3	2.22	22.3	2.22	22.7	2.22	22.8	2.22	
118	19.1	1.33	19.4	1.70	19.5	1.86	19.5	1.88	19.5	1.88	19.7	1.88	19.7	1.89	
122	15.2	1.01	15.6	1.29	15.5	1.42	15.5	1.42	15.6	1.42	15.8	1.43	15.8	1.43	
120%	-9.9	19.9	0.46	23.7	0.56	27.5	0.66	29.5	0.71	30.8	0.77	32.2	0.88	32.9	0.91
	-5	19.9	0.48	23.7	0.59	27.5	0.69	29.5	0.75	30.8	0.81	32.2	0.93	32.9	0.96
	0	19.9	0.50	23.7	0.61	27.5	0.72	29.5	0.78	30.8	0.84	32.2	0.96	32.9	1.00
	5	19.9	0.52	23.7	0.63	27.5	0.75	29.5	0.81	30.8	0.87	32.2	1.00	32.9	1.03
	10	19.9	0.54	23.7	0.65	27.5	0.77	29.5	0.83	30.8	0.90	32.2	1.03	32.9	1.06
	14	19.9	0.56	23.7	0.67	27.5	0.80	29.5	0.86	30.8	0.93	32.2	1.06	32.9	1.10
	20	19.9	0.56	23.7	0.68	27.5	0.81	29.5	0.87	30.8	0.94	32.2	1.08	32.9	1.12
	25	19.9	0.57	23.7	0.69	27.5	0.82	29.5	0.89	30.8	0.95	32.2	1.09	32.9	1.13
	30	19.9	0.58	23.7	0.70	27.5	0.83	29.5	0.90	30.8	0.96	32.2	1.10	32.9	1.14
	35	19.9	0.59	23.7	0.71	27.5	0.84	29.5	0.91	30.8	0.98	32.2	1.12	32.9	1.16
	40	19.9	0.59	23.7	0.72	27.5	0.85	29.5	0.92	30.8	0.99	32.2	1.13	32.9	1.17
	45	19.9	0.60	23.7	0.73	27.5	0.86	29.5	0.93	30.8	1.00	32.2	1.14	32.9	1.19
	50	19.9	0.61	23.7	0.73	27.5	0.87	29.5	0.94	30.8	1.01	32.2	1.16	32.9	1.20
	55	19.9	0.62	23.7	0.75	27.5	0.89	29.5	0.96	30.5	1.03	31.8	1.18	32.6	1.21
	60	19.9	0.64	23.7	0.78	27.5	0.92	29.3	1.00	29.6	1.07	31.0	1.21	31.7	1.24
	65	19.9	0.65	23.7	0.79	27.5	0.94	28.9	1.02	29.3	1.09	30.6	1.26	31.3	1.27
	70	19.9	0.64	23.7	0.78	27.5	0.95	28.3	1.05	28.6	1.15	30.0	1.28	30.7	1.29
	75	19.9	0.65	23.7	0.83	27.5	1.02	27.9	1.13	28.3	1.24	29.5	1.34	30.3	1.35
	80	19.9	0.74	23.7	0.94	26.8	1.17	27.1	1.29	27.4	1.42	28.8	1.46	29.4	1.47
	85	19.9	0.79	23.7	1.01	26.3	1.25	26.7	1.38	27.1	1.50	28.3	1.52	29.1	1.53
	90	19.9	0.90	23.7	1.14	25.6	1.42	25.9	1.57	26.2	1.62	27.5	1.63	28.2	1.65
	95	20.1	0.95	24.0	1.22	25.4	1.51	25.7	1.67	26.2	1.68	27.4	1.70	28.2	1.71
100	20.1	1.03	24.0	1.32	24.9	1.64	25.4	1.76	25.7	1.77	27.0	1.79	27.7	1.80	
105	20.1	1.16	23.6	1.49	24.3	1.85	24.7	1.89	25.0	1.90	26.2	1.92	26.7	1.94	
110	20.1	1.30	23.0	1.68	23.7	2.02	23.8	2.03	24.1	2.04	24.9	2.06	25.0	2.07	
115	19.5	1.51	22.1	1.93	22.1	2.13	22.1	2.13	22.1	2.13	22.7	2.13	22.8	2.14	
118	17.4	1.33	19.2	1.63	19.3	1.79	19.3	1.81	19.3	1.81	19.7	1.81	19.7	1.81	
122	13.9	1.01	15.4	1.24	15.4	1.36	15.4	1.37	15.4	1.37	15.9	1.37	15.8	1.38	

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 80°F dry bulb (DB) and 67°F wet bulb (WB), and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).



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
110%	-9.9	18.4	0.42	22.0	0.51	25.5	0.60	27.3	0.65	29.1	0.70	32.0	0.80	32.7	0.83
	-5	18.4	0.45	22.0	0.54	25.5	0.64	27.3	0.69	29.1	0.74	32.0	0.84	32.7	0.88
	0	18.4	0.46	22.0	0.56	25.5	0.66	27.3	0.72	29.1	0.77	32.0	0.88	32.7	0.91
	5	18.4	0.48	22.0	0.58	25.5	0.69	27.3	0.74	29.1	0.80	32.0	0.91	32.7	0.94
	10	18.4	0.49	22.0	0.60	25.5	0.71	27.3	0.77	29.1	0.82	32.0	0.94	32.7	0.97
	14	18.4	0.51	22.0	0.62	25.5	0.73	27.3	0.79	29.1	0.85	32.0	0.97	32.7	1.01
	20	18.4	0.52	22.0	0.63	25.5	0.74	27.3	0.80	29.1	0.86	32.0	0.99	32.7	1.02
	25	18.4	0.53	22.0	0.64	25.5	0.75	27.3	0.81	29.1	0.87	32.0	1.00	32.7	1.04
	30	18.4	0.53	22.0	0.64	25.5	0.76	27.3	0.82	29.1	0.89	32.0	1.01	32.7	1.05
	35	18.4	0.54	22.0	0.65	25.5	0.77	27.3	0.84	29.1	0.90	32.0	1.03	32.7	1.07
	40	18.4	0.55	22.0	0.66	25.5	0.78	27.3	0.85	29.1	0.91	32.0	1.04	32.7	1.08
	45	18.4	0.56	22.0	0.67	25.5	0.80	27.3	0.86	29.1	0.93	32.0	1.06	32.7	1.10
	50	18.4	0.57	22.0	0.68	25.5	0.81	27.3	0.87	29.1	0.94	32.0	1.08	32.7	1.11
	55	18.4	0.57	22.0	0.70	25.5	0.82	27.3	0.89	29.1	0.96	31.6	1.10	32.2	1.12
	60	18.4	0.59	22.0	0.72	25.5	0.86	27.3	0.93	29.1	1.00	30.8	1.13	31.4	1.14
	65	18.4	0.61	22.0	0.74	25.5	0.87	27.3	0.95	29.1	1.02	30.3	1.17	31.0	1.18
	70	18.4	0.61	22.0	0.74	25.5	0.92	27.3	1.01	28.5	1.11	29.7	1.23	30.4	1.24
	75	18.4	0.63	22.0	0.79	25.5	0.98	27.3	1.08	28.1	1.18	29.3	1.29	30.0	1.30
	80	18.2	0.71	21.7	0.90	25.2	1.12	26.7	1.24	27.0	1.36	28.2	1.40	28.9	1.41
	85	18.2	0.76	21.7	0.96	25.2	1.20	26.2	1.32	26.6	1.44	27.8	1.45	28.4	1.47
90	18.2	0.86	21.7	1.10	25.1	1.36	25.5	1.50	25.8	1.56	27.0	1.57	27.7	1.58	
95	18.2	0.91	21.7	1.17	24.7	1.45	25.0	1.60	25.4	1.61	26.5	1.63	27.2	1.64	
100	18.2	0.99	21.7	1.26	24.4	1.57	24.7	1.69	25.0	1.70	26.2	1.71	26.9	1.73	
105	18.2	1.11	21.7	1.43	23.6	1.78	23.9	1.82	24.3	1.83	25.4	1.84	26.1	1.86	
110	18.2	1.25	21.7	1.61	22.9	1.94	22.9	1.95	23.3	1.95	24.0	1.97	24.1	1.99	
115	18.2	1.45	21.7	1.85	21.9	2.04	21.9	2.04	22.0	2.04	22.4	2.04	22.5	2.05	
118	17.6	1.32	18.9	1.57	19.1	1.72	19.1	1.73	19.2	1.73	19.5	1.73	19.5	1.74	
122	14.1	1.00	15.2	1.19	15.2	1.31	15.2	1.31	15.3	1.31	15.7	1.31	15.7	1.32	
100%	-9.9	16.2	0.37	19.3	0.45	22.4	0.53	24.0	0.58	26.4	0.63	29.6	0.72	31.2	0.75
	-5	16.2	0.39	19.3	0.47	22.4	0.56	24.0	0.61	26.4	0.66	29.6	0.76	31.2	0.79
	0	16.2	0.41	19.3	0.49	22.4	0.58	24.0	0.64	26.4	0.69	29.6	0.79	31.2	0.83
	5	16.2	0.42	19.3	0.51	22.4	0.60	24.0	0.66	26.4	0.71	29.6	0.82	31.2	0.86
	10	16.2	0.43	19.3	0.52	22.4	0.62	24.0	0.68	26.4	0.73	29.6	0.85	31.2	0.88
	14	16.2	0.45	19.3	0.54	22.4	0.64	24.0	0.70	26.4	0.76	29.6	0.88	31.2	0.91
	20	16.2	0.46	19.3	0.56	22.4	0.66	24.0	0.72	26.4	0.78	29.6	0.90	31.2	0.94
	25	16.2	0.48	19.3	0.58	22.4	0.68	24.0	0.74	26.4	0.80	29.6	0.92	31.2	0.96
	30	16.2	0.49	19.3	0.59	22.4	0.70	24.0	0.76	26.4	0.82	29.6	0.94	31.2	0.98
	35	16.2	0.50	19.3	0.60	22.4	0.71	24.0	0.77	26.4	0.84	29.6	0.96	31.2	1.00
	40	16.2	0.50	19.3	0.61	22.4	0.72	24.0	0.78	26.4	0.85	29.6	0.98	31.2	1.01
	45	16.2	0.52	19.3	0.62	22.4	0.74	24.0	0.80	26.4	0.87	29.6	1.00	31.2	1.04
	50	16.2	0.53	19.3	0.64	22.4	0.75	24.0	0.81	26.4	0.89	29.6	1.02	31.2	1.06
	55	16.2	0.53	19.3	0.65	22.4	0.77	24.0	0.83	26.4	0.90	29.6	1.03	30.9	1.07
	60	16.2	0.55	19.3	0.67	22.4	0.80	24.0	0.86	26.4	0.94	29.5	1.07	30.0	1.09
	65	16.2	0.56	19.3	0.68	22.4	0.81	24.0	0.88	26.4	0.96	29.0	1.10	29.7	1.12
	70	16.2	0.58	19.3	0.70	22.4	0.87	24.0	0.95	26.4	1.06	28.5	1.18	29.0	1.20
	75	16.2	0.59	19.3	0.75	22.4	0.93	24.0	1.02	26.4	1.14	28.0	1.24	28.7	1.25
	80	16.2	0.68	19.3	0.86	22.4	1.06	24.0	1.17	26.4	1.31	27.3	1.34	27.8	1.36
	85	16.2	0.72	19.3	0.91	22.4	1.13	24.0	1.25	26.3	1.39	26.8	1.40	27.5	1.42
90	16.2	0.82	19.3	1.04	22.4	1.29	24.0	1.42	25.4	1.50	26.0	1.51	26.6	1.53	
95	16.2	0.86	19.3	1.11	22.4	1.37	24.0	1.52	25.1	1.55	25.6	1.56	26.3	1.59	
100	16.2	0.93	19.3	1.19	22.4	1.49	23.6	1.60	24.6	1.63	25.3	1.64	25.8	1.67	
105	16.2	1.05	19.3	1.34	22.3	1.67	22.9	1.71	23.9	1.74	24.5	1.76	25.1	1.78	
110	16.2	1.17	19.3	1.51	22.0	1.82	22.5	1.82	23.0	1.86	23.3	1.88	23.8	1.90	
115	16.2	1.35	19.3	1.72	21.0	1.90	21.6	1.90	22.1	1.93	22.3	1.93	22.4	1.94	
118	16.2	1.36	16.9	1.62	18.2	1.60	18.8	1.61	19.3	1.64	19.5	1.64	19.4	1.65	
122	13.8	1.23	13.6	1.23	14.5	1.22	15.0	1.22	15.4	1.24	15.6	1.24	15.6	1.25	

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

COOLING CAPACITY DATA



ARUN024GSS4

24,000 Btu/h 208-230V Heat Pump Units

MULTI V S Outdoor Unit Engineering Manual

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
90%	-9.9	14.6	0.33	17.4	0.40	20.3	0.47	21.6	0.50	23.0	0.54	25.8	0.62	28.6	0.68
	-5	14.6	0.35	17.4	0.42	20.3	0.49	21.6	0.53	23.0	0.57	25.8	0.66	28.6	0.72
	0	14.6	0.36	17.4	0.44	20.3	0.51	21.6	0.55	23.0	0.59	25.8	0.68	28.6	0.75
	5	14.6	0.38	17.4	0.45	20.3	0.53	21.6	0.57	23.0	0.61	25.8	0.71	28.6	0.78
	10	14.6	0.39	17.4	0.46	20.3	0.55	21.6	0.59	23.0	0.63	25.8	0.73	28.6	0.80
	14	14.6	0.40	17.4	0.48	20.3	0.57	21.6	0.61	23.0	0.65	25.8	0.75	28.6	0.83
	20	14.6	0.42	17.4	0.50	20.3	0.59	21.6	0.64	23.0	0.68	25.8	0.78	28.6	0.86
	25	14.6	0.43	17.4	0.52	20.3	0.61	21.6	0.66	23.0	0.70	25.8	0.80	28.6	0.88
	30	14.6	0.44	17.4	0.53	20.3	0.63	21.6	0.67	23.0	0.73	25.8	0.83	28.6	0.91
	35	14.6	0.45	17.4	0.55	20.3	0.64	21.6	0.69	23.0	0.75	25.8	0.85	28.6	0.94
	40	14.6	0.47	17.4	0.56	20.3	0.66	21.6	0.72	23.0	0.77	25.8	0.88	28.6	0.97
	45	14.6	0.48	17.4	0.58	20.3	0.68	21.6	0.73	23.0	0.79	25.8	0.90	28.6	0.99
	50	14.6	0.49	17.4	0.59	20.3	0.69	21.6	0.75	23.0	0.81	25.8	0.92	28.6	1.01
	55	14.6	0.50	17.4	0.60	20.3	0.71	21.6	0.76	23.0	0.82	25.8	0.93	28.6	1.02
	60	14.6	0.51	17.4	0.62	20.3	0.73	21.6	0.79	23.0	0.85	25.8	0.97	28.4	1.03
	65	14.6	0.52	17.4	0.63	20.3	0.75	21.6	0.81	23.0	0.87	25.8	0.99	28.2	1.08
	70	14.6	0.54	17.4	0.65	20.3	0.78	21.6	0.85	23.0	0.93	25.8	1.10	27.6	1.16
	75	14.6	0.55	17.4	0.68	20.3	0.83	21.6	0.91	23.0	1.00	25.8	1.15	27.2	1.22
	80	14.6	0.61	17.4	0.77	20.3	0.95	21.6	1.04	23.0	1.14	25.8	1.27	26.5	1.32
	85	14.6	0.65	17.4	0.82	20.3	1.01	21.6	1.11	23.0	1.22	25.5	1.34	26.0	1.38
90	14.6	0.74	17.4	0.93	20.3	1.15	21.6	1.27	23.0	1.39	24.8	1.46	25.3	1.49	
95	14.6	0.79	17.4	0.99	20.3	1.23	21.6	1.35	23.0	1.49	24.3	1.52	24.9	1.54	
100	14.6	0.81	17.4	1.03	20.3	1.28	21.6	1.41	23.0	1.52	24.0	1.59	24.4	1.60	
105	14.6	0.94	17.4	1.20	20.3	1.44	21.6	1.54	22.8	1.63	23.3	1.70	23.6	1.72	
110	14.6	1.08	17.4	1.38	20.3	1.58	21.6	1.66	21.9	1.77	22.1	1.83	22.3	1.85	
115	14.6	1.17	17.4	1.50	19.0	1.67	20.5	1.74	20.8	1.82	21.0	1.86	21.1	1.89	
118	14.6	1.24	16.9	1.62	16.5	1.40	17.9	1.48	18.1	1.55	18.3	1.58	18.2	1.60	
122	13.8	1.23	13.6	1.23	13.2	1.07	14.3	1.12	14.5	1.17	14.7	1.20	14.7	1.22	
80%	-9.9	13.0	0.29	15.4	0.35	18.0	0.40	19.2	0.44	20.5	0.47	22.9	0.54	25.4	0.60
	-5	13.0	0.30	15.4	0.36	18.0	0.42	19.2	0.46	20.5	0.50	22.9	0.57	25.4	0.63
	0	13.0	0.32	15.4	0.38	18.0	0.44	19.2	0.48	20.5	0.52	22.9	0.59	25.4	0.66
	5	13.0	0.33	15.4	0.39	18.0	0.46	19.2	0.50	20.5	0.54	22.9	0.61	25.4	0.68
	10	13.0	0.34	15.4	0.40	18.0	0.47	19.2	0.51	20.5	0.55	22.9	0.63	25.4	0.70
	14	13.0	0.35	15.4	0.42	18.0	0.49	19.2	0.53	20.5	0.57	22.9	0.65	25.4	0.73
	20	13.0	0.36	15.4	0.43	18.0	0.51	19.2	0.55	20.5	0.59	22.9	0.67	25.4	0.75
	25	13.0	0.37	15.4	0.45	18.0	0.52	19.2	0.57	20.5	0.61	22.9	0.69	25.4	0.78
	30	13.0	0.38	15.4	0.46	18.0	0.54	19.2	0.58	20.5	0.62	22.9	0.71	25.4	0.80
	35	13.0	0.39	15.4	0.47	18.0	0.55	19.2	0.60	20.5	0.64	22.9	0.73	25.4	0.82
	40	13.0	0.40	15.4	0.48	18.0	0.57	19.2	0.61	20.5	0.66	22.9	0.75	25.4	0.84
	45	13.0	0.41	15.4	0.49	18.0	0.58	19.2	0.62	20.5	0.67	22.9	0.76	25.4	0.86
	50	13.0	0.42	15.4	0.50	18.0	0.58	19.2	0.63	20.5	0.68	22.9	0.77	25.4	0.87
	55	13.0	0.42	15.4	0.51	18.0	0.60	19.2	0.64	20.5	0.69	22.9	0.79	25.4	0.88
	60	13.0	0.44	15.4	0.52	18.0	0.62	19.2	0.67	20.5	0.72	22.9	0.82	25.4	0.92
	65	13.0	0.44	15.4	0.53	18.0	0.63	19.2	0.68	20.5	0.73	22.9	0.83	25.4	0.94
	70	13.0	0.46	15.4	0.55	18.0	0.65	19.2	0.70	20.5	0.76	22.9	0.90	25.4	1.04
	75	13.0	0.46	15.4	0.56	18.0	0.68	19.2	0.75	20.5	0.81	22.9	0.95	25.4	1.10
	80	13.0	0.51	15.4	0.64	18.0	0.77	19.2	0.85	20.5	0.92	22.9	1.10	25.4	1.22
	85	13.0	0.54	15.4	0.68	18.0	0.83	19.2	0.90	20.5	0.99	22.9	1.17	25.4	1.26
90	13.0	0.61	15.4	0.77	18.0	0.93	19.2	1.03	20.5	1.13	22.9	1.29	25.0	1.33	
95	13.0	0.65	15.4	0.81	18.0	1.00	19.2	1.09	20.5	1.20	22.9	1.33	24.4	1.37	
100	13.0	0.70	15.4	0.87	18.0	1.07	19.2	1.17	20.5	1.24	22.9	1.38	23.9	1.41	
105	13.0	0.80	15.4	1.00	18.0	1.20	19.2	1.25	20.5	1.33	22.7	1.44	23.2	1.48	
110	13.0	0.90	15.4	1.14	18.0	1.27	19.2	1.34	20.5	1.44	21.9	1.49	22.0	1.56	
115	13.0	0.97	15.4	1.22	18.0	1.31	19.2	1.41	19.2	1.47	19.3	1.53	19.3	1.62	
118	13.0	1.03	15.4	1.29	16.5	1.40	16.8	1.33	16.7	1.25	16.8	1.30	16.7	1.37	
122	13.0	1.11	13.6	1.22	13.2	1.07	13.5	1.01	13.4	0.95	13.5	0.98	13.4	1.04	

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 80°F dry bulb (DB) and 67°F wet bulb (WB), and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).



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
70%	-9.9	11.4	0.25	13.5	0.30	15.8	0.35	16.8	0.38	17.9	0.40	20.0	0.46	22.3	0.52
	-5	11.4	0.27	13.5	0.32	15.8	0.37	16.8	0.40	17.9	0.43	20.0	0.49	22.3	0.55
	0	11.4	0.28	13.5	0.33	15.8	0.39	16.8	0.42	17.9	0.44	20.0	0.51	22.3	0.57
	5	11.4	0.29	13.5	0.34	15.8	0.40	16.8	0.43	17.9	0.46	20.0	0.53	22.3	0.59
	10	11.4	0.30	13.5	0.35	15.8	0.41	16.8	0.44	17.9	0.47	20.0	0.54	22.3	0.61
	14	11.4	0.31	13.5	0.37	15.8	0.43	16.8	0.46	17.9	0.49	20.0	0.56	22.3	0.63
	20	11.4	0.32	13.5	0.38	15.8	0.44	16.8	0.48	17.9	0.51	20.0	0.58	22.3	0.65
	25	11.4	0.33	13.5	0.39	15.8	0.45	16.8	0.49	17.9	0.52	20.0	0.59	22.3	0.67
	30	11.4	0.34	13.5	0.40	15.8	0.47	16.8	0.50	17.9	0.54	20.0	0.61	22.3	0.68
	35	11.4	0.35	13.5	0.41	15.8	0.48	16.8	0.51	17.9	0.55	20.0	0.62	22.3	0.70
	40	11.4	0.35	13.5	0.42	15.8	0.49	16.8	0.53	17.9	0.56	20.0	0.64	22.3	0.72
	45	11.4	0.36	13.5	0.43	15.8	0.50	16.8	0.54	17.9	0.57	20.0	0.65	22.3	0.73
	50	11.4	0.37	13.5	0.43	15.8	0.51	16.8	0.54	17.9	0.58	20.0	0.66	22.3	0.75
	55	11.4	0.37	13.5	0.44	15.8	0.52	16.8	0.55	17.9	0.59	20.0	0.68	22.3	0.76
	60	11.4	0.38	13.5	0.46	15.8	0.53	16.8	0.57	17.9	0.61	20.0	0.70	22.3	0.79
	65	11.4	0.39	13.5	0.46	15.8	0.54	16.8	0.58	17.9	0.63	20.0	0.71	22.3	0.80
	70	11.4	0.40	13.5	0.48	15.8	0.56	16.8	0.60	17.9	0.65	20.0	0.74	22.3	0.85
	75	11.4	0.41	13.5	0.49	15.8	0.57	16.8	0.62	17.9	0.68	20.0	0.79	22.3	0.90
	80	11.4	0.44	13.5	0.54	15.8	0.65	16.8	0.71	17.9	0.77	20.0	0.87	22.3	1.00
	85	11.4	0.46	13.5	0.57	15.8	0.69	16.8	0.75	17.9	0.83	20.0	0.93	22.3	1.04
90	11.4	0.52	13.5	0.64	15.8	0.78	16.8	0.85	17.9	0.93	20.0	1.04	22.3	1.13	
95	11.4	0.55	13.5	0.68	15.8	0.83	16.8	0.91	17.9	0.99	20.0	1.09	22.3	1.17	
100	11.4	0.60	13.5	0.74	15.8	0.90	16.8	0.98	17.9	1.02	20.0	1.14	22.3	1.20	
105	11.4	0.67	13.5	0.84	15.8	0.99	16.8	1.05	17.9	1.11	20.0	1.20	22.3	1.27	
110	11.4	0.76	13.5	0.95	15.8	1.05	16.8	1.11	17.9	1.20	20.0	1.25	21.6	1.37	
115	11.4	0.82	13.5	1.02	15.8	1.08	16.8	1.17	17.9	1.24	20.0	1.29	20.4	1.45	
118	11.4	0.87	13.5	1.08	15.8	1.15	16.8	1.24	16.3	1.24	16.8	1.09	16.7	1.23	
122	11.4	0.94	13.5	1.17	14.1	1.10	13.4	1.02	13.0	0.94	13.5	0.83	13.4	0.94	
60%	-9.9	9.8	0.22	11.6	0.26	13.5	0.30	14.4	0.32	15.3	0.34	17.3	0.39	19.1	0.44
	-5	9.8	0.23	11.6	0.27	13.5	0.32	14.4	0.34	15.3	0.36	17.3	0.41	19.1	0.46
	0	9.8	0.24	11.6	0.28	13.5	0.33	14.4	0.35	15.3	0.38	17.3	0.43	19.1	0.48
	5	9.8	0.25	11.6	0.29	13.5	0.34	14.4	0.36	15.3	0.39	17.3	0.44	19.1	0.50
	10	9.8	0.26	11.6	0.30	13.5	0.35	14.4	0.37	15.3	0.40	17.3	0.46	19.1	0.51
	14	9.8	0.27	11.6	0.31	13.5	0.36	14.4	0.39	15.3	0.42	17.3	0.47	19.1	0.53
	20	9.8	0.27	11.6	0.32	13.5	0.37	14.4	0.40	15.3	0.43	17.3	0.49	19.1	0.55
	25	9.8	0.28	11.6	0.33	13.5	0.38	14.4	0.41	15.3	0.44	17.3	0.50	19.1	0.56
	30	9.8	0.29	11.6	0.34	13.5	0.39	14.4	0.42	15.3	0.45	17.3	0.51	19.1	0.58
	35	9.8	0.29	11.6	0.35	13.5	0.40	14.4	0.43	15.3	0.47	17.3	0.53	19.1	0.59
	40	9.8	0.30	11.6	0.36	13.5	0.42	14.4	0.45	15.3	0.48	17.3	0.54	19.1	0.61
	45	9.8	0.31	11.6	0.36	13.5	0.42	14.4	0.45	15.3	0.48	17.3	0.55	19.1	0.61
	50	9.8	0.31	11.6	0.36	13.5	0.42	14.4	0.45	15.3	0.49	17.3	0.55	19.1	0.62
	55	9.8	0.31	11.6	0.37	13.5	0.43	14.4	0.46	15.3	0.49	17.3	0.56	19.1	0.63
	60	9.8	0.32	11.6	0.38	13.5	0.45	14.4	0.48	15.3	0.51	17.3	0.58	19.1	0.65
	65	9.8	0.33	11.6	0.39	13.5	0.45	14.4	0.49	15.3	0.52	17.3	0.59	19.1	0.67
	70	9.8	0.34	11.6	0.40	13.5	0.47	14.4	0.50	15.3	0.54	17.3	0.61	19.1	0.69
	75	9.8	0.34	11.6	0.41	13.5	0.48	14.4	0.51	15.3	0.55	17.3	0.65	19.1	0.74
	80	9.8	0.36	11.6	0.44	13.5	0.53	14.4	0.58	15.3	0.63	17.3	0.72	19.1	0.83
	85	9.8	0.39	11.6	0.47	13.5	0.57	14.4	0.62	15.3	0.67	17.3	0.76	19.1	0.86
90	9.8	0.43	11.6	0.53	13.5	0.64	14.4	0.70	15.3	0.76	17.3	0.85	19.1	0.94	
95	9.8	0.46	11.6	0.56	13.5	0.68	14.4	0.75	15.3	0.80	17.3	0.89	19.1	0.99	
100	9.8	0.49	11.6	0.61	13.5	0.73	14.4	0.80	15.3	0.84	17.3	0.94	19.1	1.03	
105	9.8	0.56	11.6	0.69	13.5	0.81	14.4	0.86	15.3	0.91	17.3	1.00	19.1	1.12	
110	9.8	0.63	11.6	0.78	13.5	0.87	14.4	0.91	15.3	0.98	17.3	1.07	19.1	1.23	
115	9.8	0.67	11.6	0.84	13.5	0.91	14.4	0.96	15.3	1.02	17.3	1.13	19.1	1.31	
118	9.8	0.71	11.6	0.89	13.5	0.96	14.4	1.02	15.3	1.08	16.8	1.09	16.7	1.23	
122	9.8	0.77	11.6	0.96	13.5	1.04	13.4	1.04	13.0	0.96	13.5	0.83	13.4	0.94	

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 80°F dry bulb (DB) and 67°F wet bulb (WB), and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).

COOLING CAPACITY DATA



ARUN024GSS4

24,000 Btu/h 208-230V Heat Pump 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
50%	-9.9	8.1	0.19	9.6	0.22	11.3	0.25	12.0	0.27	12.8	0.29	14.4	0.32	15.9	0.36
	-5	8.1	0.20	9.6	0.23	11.3	0.26	12.0	0.28	12.8	0.30	14.4	0.34	15.9	0.37
	0	8.1	0.21	9.6	0.24	11.3	0.27	12.0	0.29	12.8	0.32	14.4	0.35	15.9	0.39
	5	8.1	0.21	9.6	0.25	11.3	0.28	12.0	0.30	12.8	0.33	14.4	0.36	15.9	0.40
	10	8.1	0.22	9.6	0.26	11.3	0.29	12.0	0.31	12.8	0.34	14.4	0.37	15.9	0.42
	14	8.1	0.23	9.6	0.27	11.3	0.30	12.0	0.33	12.8	0.35	14.4	0.39	15.9	0.43
	20	8.1	0.24	9.6	0.28	11.3	0.31	12.0	0.34	12.8	0.36	14.4	0.40	15.9	0.45
	25	8.1	0.24	9.6	0.29	11.3	0.32	12.0	0.35	12.8	0.37	14.4	0.41	15.9	0.46
	30	8.1	0.25	9.6	0.29	11.3	0.33	12.0	0.36	12.8	0.38	14.4	0.43	15.9	0.47
	35	8.1	0.26	9.6	0.30	11.3	0.34	12.0	0.37	12.8	0.39	14.4	0.44	15.9	0.49
	40	8.1	0.27	9.6	0.31	11.3	0.35	12.0	0.37	12.8	0.40	14.4	0.45	15.9	0.50
	45	8.1	0.27	9.6	0.31	11.3	0.36	12.0	0.38	12.8	0.41	14.4	0.45	15.9	0.51
	50	8.1	0.27	9.6	0.32	11.3	0.36	12.0	0.39	12.8	0.41	14.4	0.46	15.9	0.51
	55	8.1	0.28	9.6	0.32	11.3	0.37	12.0	0.39	12.8	0.42	14.4	0.47	15.9	0.52
	60	8.1	0.28	9.6	0.33	11.3	0.38	12.0	0.41	12.8	0.43	14.4	0.48	15.9	0.54
	65	8.1	0.29	9.6	0.34	11.3	0.39	12.0	0.41	12.8	0.44	14.4	0.49	15.9	0.55
	70	8.1	0.30	9.6	0.34	11.3	0.39	12.0	0.42	12.8	0.45	14.4	0.51	15.9	0.57
	75	8.1	0.30	9.6	0.35	11.3	0.40	12.0	0.43	12.8	0.46	14.4	0.52	15.9	0.58
	80	8.1	0.31	9.6	0.37	11.3	0.43	12.0	0.47	12.8	0.50	14.4	0.58	15.9	0.66
	85	8.1	0.33	9.6	0.39	11.3	0.46	12.0	0.50	12.8	0.53	14.4	0.61	15.9	0.70
	90	8.1	0.37	9.6	0.44	11.3	0.52	12.0	0.56	12.8	0.60	14.4	0.69	15.9	0.79
95	8.1	0.39	9.6	0.46	11.3	0.55	12.0	0.59	12.8	0.64	14.4	0.74	15.9	0.84	
100	8.1	0.41	9.6	0.49	11.3	0.58	12.0	0.63	12.8	0.68	14.4	0.78	15.9	0.90	
105	8.1	0.44	9.6	0.54	11.3	0.64	12.0	0.69	12.8	0.75	14.4	0.87	15.9	1.00	
110	8.1	0.49	9.6	0.59	11.3	0.71	12.0	0.77	12.8	0.83	14.4	0.97	15.9	1.11	
115	8.1	0.53	9.6	0.64	11.3	0.76	12.0	0.83	12.8	0.90	14.4	1.04	15.9	1.20	
118	8.1	0.57	9.6	0.69	11.3	0.83	12.0	0.90	12.8	0.98	14.4	1.09	15.9	1.23	
122	8.1	0.63	9.6	0.77	11.3	0.91	12.0	1.00	12.8	0.96	13.5	0.83	13.4	0.94	

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 80°F dry bulb (DB) and 67°F wet bulb (WB), and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).

MULTI V S Outdoor Unit Engineering Manual



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
130%	-9.9	34.6	0.89	41.0	1.08	47.7	1.28	49.5	1.38	50.2	1.49	51.9	1.71	53.1	1.76
	-5	34.6	0.94	41.0	1.14	47.7	1.35	49.5	1.45	50.2	1.57	51.9	1.80	53.1	1.86
	0	34.6	0.97	41.0	1.18	47.7	1.40	49.5	1.51	50.2	1.63	51.9	1.87	53.1	1.93
	5	34.6	1.01	41.0	1.22	47.7	1.45	49.5	1.57	50.2	1.69	51.9	1.94	53.1	2.00
	10	34.6	1.04	41.0	1.26	47.7	1.50	49.5	1.61	50.2	1.74	51.9	2.00	53.1	2.06
	14	34.6	1.08	41.0	1.31	47.7	1.55	49.5	1.67	50.2	1.80	51.9	2.07	53.1	2.14
	20	34.6	1.09	41.0	1.33	47.7	1.57	49.5	1.70	50.2	1.83	51.9	2.10	53.1	2.17
	25	34.6	1.11	41.0	1.34	47.7	1.59	49.5	1.72	50.2	1.85	51.9	2.12	53.1	2.19
	30	34.6	1.12	41.0	1.36	47.7	1.61	49.5	1.74	50.2	1.87	51.9	2.14	53.1	2.22
	35	34.6	1.14	41.0	1.38	47.7	1.63	49.5	1.76	50.2	1.89	51.9	2.17	53.1	2.25
	40	34.6	1.15	41.0	1.39	47.7	1.65	49.5	1.78	50.2	1.92	51.9	2.20	53.1	2.27
	45	34.6	1.16	41.0	1.41	47.7	1.67	49.5	1.80	50.2	1.93	51.9	2.22	53.1	2.29
	50	34.6	1.18	41.0	1.42	47.7	1.68	49.5	1.82	50.2	1.95	51.9	2.24	53.1	2.32
	55	34.6	1.19	41.0	1.45	47.7	1.71	48.8	1.86	49.5	1.99	51.2	2.28	52.4	2.33
	60	34.6	1.23	41.0	1.50	47.0	1.79	47.7	1.93	48.2	2.07	50.0	2.35	51.2	2.36
	65	34.6	1.26	41.0	1.53	46.3	1.82	47.0	1.97	47.5	2.11	49.3	2.43	50.5	2.45
	70	34.6	1.21	41.0	1.47	45.4	1.81	46.0	1.99	46.7	2.19	48.4	2.43	49.6	2.45
	75	34.6	1.24	41.0	1.57	44.7	1.94	45.3	2.14	46.0	2.35	47.7	2.55	48.9	2.56
	80	34.6	1.41	41.0	1.79	43.5	2.22	44.0	2.45	44.7	2.69	46.4	2.76	47.7	2.79
	85	34.6	1.50	41.0	1.91	42.8	2.37	43.5	2.61	44.0	2.85	45.7	2.88	46.9	2.90
90	34.6	1.70	40.3	2.17	41.6	2.69	42.1	2.98	42.8	3.08	44.5	3.10	45.7	3.13	
95	34.9	1.81	40.1	2.31	41.3	2.87	42.0	3.18	42.5	3.19	44.2	3.22	45.5	3.25	
100	34.9	1.96	39.4	2.50	40.6	3.11	41.3	3.34	41.8	3.36	43.7	3.39	44.9	3.42	
105	34.9	2.20	38.3	2.83	39.5	3.51	40.1	3.59	40.8	3.61	42.2	3.65	42.8	3.68	
110	34.9	2.47	36.7	3.18	38.2	3.83	38.4	3.85	38.9	3.86	39.8	3.90	39.9	3.94	
115	34.7	2.86	35.4	3.66	35.4	4.04	35.4	4.04	35.4	4.04	35.9	4.05	36.1	4.05	
118	30.2	2.43	30.8	3.10	30.8	3.40	30.8	3.43	30.8	3.43	31.3	3.43	31.1	3.44	
122	24.1	1.84	24.7	2.36	24.6	2.59	24.6	2.59	24.7	2.59	25.1	2.60	25.1	2.61	
120%	-9.9	31.4	0.84	37.5	1.01	43.6	1.20	46.7	1.29	48.8	1.40	51.0	1.60	52.1	1.65
	-5	31.4	0.88	37.5	1.07	43.6	1.27	46.7	1.37	48.8	1.47	51.0	1.69	52.1	1.74
	0	31.4	0.92	37.5	1.11	43.6	1.32	46.7	1.42	48.8	1.53	51.0	1.76	52.1	1.81
	5	31.4	0.95	37.5	1.15	43.6	1.36	46.7	1.47	48.8	1.59	51.0	1.82	52.1	1.88
	10	31.4	0.98	37.5	1.19	43.6	1.40	46.7	1.51	48.8	1.63	51.0	1.87	52.1	1.93
	14	31.4	1.01	37.5	1.23	43.6	1.46	46.7	1.57	48.8	1.69	51.0	1.94	52.1	2.00
	20	31.4	1.03	37.5	1.25	43.6	1.48	46.7	1.59	48.8	1.72	51.0	1.97	52.1	2.03
	25	31.4	1.04	37.5	1.26	43.6	1.49	46.7	1.61	48.8	1.74	51.0	1.99	52.1	2.06
	30	31.4	1.06	37.5	1.28	43.6	1.51	46.7	1.63	48.8	1.76	51.0	2.01	52.1	2.08
	35	31.4	1.07	37.5	1.29	43.6	1.53	46.7	1.65	48.8	1.78	51.0	2.04	52.1	2.11
	40	31.4	1.08	37.5	1.31	43.6	1.55	46.7	1.67	48.8	1.80	51.0	2.06	52.1	2.14
	45	31.4	1.10	37.5	1.32	43.6	1.57	46.7	1.69	48.8	1.82	51.0	2.09	52.1	2.16
	50	31.4	1.11	37.5	1.34	43.6	1.58	46.7	1.71	48.8	1.84	51.0	2.11	52.1	2.18
	55	31.4	1.13	37.5	1.36	43.6	1.61	46.7	1.75	48.3	1.88	50.3	2.15	51.6	2.20
	60	31.4	1.16	37.5	1.41	43.6	1.68	46.4	1.82	46.9	1.95	49.1	2.21	50.1	2.25
	65	31.4	1.19	37.5	1.44	43.6	1.71	45.7	1.85	46.4	1.99	48.4	2.29	49.6	2.31
	70	31.4	1.16	37.5	1.41	43.6	1.74	44.8	1.91	45.3	2.10	47.5	2.33	48.6	2.36
	75	31.4	1.19	37.5	1.51	43.6	1.86	44.1	2.05	44.8	2.25	46.8	2.44	48.0	2.46
	80	31.4	1.36	37.5	1.72	42.4	2.13	42.9	2.35	43.4	2.58	45.5	2.65	46.6	2.68
	85	31.4	1.44	37.5	1.83	41.7	2.28	42.2	2.51	42.9	2.74	44.8	2.76	46.1	2.79
90	31.4	1.64	37.5	2.08	40.5	2.58	41.0	2.86	41.5	2.96	43.6	2.98	44.7	3.01	
95	31.8	1.73	37.9	2.22	40.2	2.76	40.7	3.05	41.4	3.06	43.3	3.09	44.6	3.12	
100	31.8	1.88	37.9	2.40	39.5	2.99	40.2	3.21	40.7	3.23	42.8	3.26	43.9	3.29	
105	31.8	2.11	37.3	2.71	38.4	3.37	39.1	3.45	39.6	3.47	41.6	3.50	42.2	3.53	
110	31.8	2.38	36.4	3.06	37.5	3.68	37.7	3.70	38.2	3.71	39.4	3.75	39.6	3.78	
115	30.9	2.75	35.0	3.52	35.0	3.88	35.0	3.88	35.0	3.88	35.9	3.88	36.1	3.89	
118	27.6	2.43	30.5	2.98	30.5	3.26	30.5	3.29	30.5	3.29	31.3	3.30	31.1	3.30	
122	22.0	1.84	24.4	2.27	24.3	2.48	24.4	2.49	24.4	2.49	25.1	2.50	25.1	2.51	

Performance Data

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 80°F dry bulb (DB) and 67°F wet bulb (WB), and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).

COOLING CAPACITY DATA



ARUN038GSS4

38,000 Btu/h 208-230V Heat Pump Units

MULTI V S Outdoor Unit Engineering Manual

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
110%	-9.9	29.1	0.77	34.8	0.93	40.4	1.10	43.2	1.19	46.0	1.28	50.7	1.46	51.8	1.51
	-5	29.1	0.81	34.8	0.98	40.4	1.16	43.2	1.26	46.0	1.35	50.7	1.54	51.8	1.60
	0	29.1	0.84	34.8	1.02	40.4	1.21	43.2	1.31	46.0	1.40	50.7	1.60	51.8	1.66
	5	29.1	0.88	34.8	1.06	40.4	1.25	43.2	1.36	46.0	1.45	50.7	1.66	51.8	1.72
	10	29.1	0.90	34.8	1.09	40.4	1.29	43.2	1.40	46.0	1.50	50.7	1.71	51.8	1.77
	14	29.1	0.93	34.8	1.13	40.4	1.33	43.2	1.45	46.0	1.55	50.7	1.77	51.8	1.83
	20	29.1	0.95	34.8	1.14	40.4	1.35	43.2	1.47	46.0	1.57	50.7	1.80	51.8	1.86
	25	29.1	0.96	34.8	1.16	40.4	1.37	43.2	1.48	46.0	1.59	50.7	1.82	51.8	1.89
	30	29.1	0.97	34.8	1.17	40.4	1.39	43.2	1.50	46.0	1.61	50.7	1.85	51.8	1.91
	35	29.1	0.98	34.8	1.19	40.4	1.41	43.2	1.52	46.0	1.64	50.7	1.88	51.8	1.94
	40	29.1	1.00	34.8	1.21	40.4	1.43	43.2	1.54	46.0	1.66	50.7	1.90	51.8	1.97
	45	29.1	1.01	34.8	1.23	40.4	1.45	43.2	1.57	46.0	1.69	50.7	1.93	51.8	2.00
	50	29.1	1.03	34.8	1.25	40.4	1.47	43.2	1.59	46.0	1.71	50.7	1.96	51.8	2.03
	55	29.1	1.05	34.8	1.27	40.4	1.50	43.2	1.63	46.0	1.75	50.0	2.00	51.0	2.05
	60	29.1	1.08	34.8	1.32	40.4	1.57	43.2	1.69	46.0	1.82	48.7	2.06	49.8	2.08
	65	29.1	1.10	34.8	1.34	40.4	1.59	43.2	1.73	46.0	1.85	48.0	2.13	49.1	2.15
	70	29.1	1.12	34.8	1.36	40.4	1.67	43.2	1.84	45.1	2.01	47.1	2.24	48.2	2.26
	75	29.1	1.14	34.8	1.45	40.4	1.79	43.2	1.97	44.4	2.16	46.4	2.34	47.5	2.36
	80	28.8	1.30	34.4	1.65	40.0	2.04	42.2	2.25	42.7	2.48	44.7	2.54	45.7	2.57
	85	28.8	1.38	34.4	1.76	40.0	2.18	41.5	2.40	42.1	2.63	44.0	2.65	45.0	2.67
90	28.8	1.57	34.4	2.00	39.8	2.48	40.3	2.74	40.8	2.83	42.7	2.86	43.8	2.88	
95	28.8	1.66	34.4	2.13	39.1	2.64	39.6	2.92	40.1	2.93	42.0	2.96	43.1	2.99	
100	28.8	1.80	34.4	2.30	38.6	2.87	39.1	3.08	39.6	3.09	41.5	3.12	42.5	3.15	
105	28.8	2.03	34.4	2.60	37.4	3.24	37.9	3.31	38.4	3.33	40.3	3.36	41.3	3.39	
110	28.8	2.28	34.4	2.93	36.2	3.53	36.3	3.54	36.9	3.56	38.0	3.59	38.2	3.63	
115	28.8	2.64	34.4	3.37	34.7	3.72	34.7	3.72	34.8	3.72	35.5	3.72	35.7	3.73	
118	27.9	2.40	29.9	2.86	30.2	3.13	30.2	3.15	30.3	3.15	30.9	3.16	30.8	3.17	
122	22.3	1.82	24.0	2.17	24.1	2.38	24.1	2.39	24.3	2.39	24.8	2.40	24.8	2.41	
100%	-9.9	25.6	0.68	30.5	0.82	35.5	0.97	38.0	1.06	41.8	1.14	46.8	1.32	49.4	1.37
	-5	25.6	0.71	30.5	0.86	35.5	1.02	38.0	1.11	41.8	1.20	46.8	1.39	49.4	1.45
	0	25.6	0.74	30.5	0.90	35.5	1.06	38.0	1.16	41.8	1.25	46.8	1.45	49.4	1.51
	5	25.6	0.77	30.5	0.93	35.5	1.10	38.0	1.20	41.8	1.30	46.8	1.50	49.4	1.56
	10	25.6	0.79	30.5	0.96	35.5	1.13	38.0	1.23	41.8	1.34	46.8	1.54	49.4	1.61
	14	25.6	0.82	30.5	0.99	35.5	1.17	38.0	1.28	41.8	1.38	46.8	1.60	49.4	1.66
	20	25.6	0.85	30.5	1.02	35.5	1.21	38.0	1.32	41.8	1.43	46.8	1.64	49.4	1.71
	25	25.6	0.87	30.5	1.05	35.5	1.24	38.0	1.35	41.8	1.47	46.8	1.68	49.4	1.75
	30	25.6	0.89	30.5	1.08	35.5	1.27	38.0	1.38	41.8	1.50	46.8	1.72	49.4	1.79
	35	25.6	0.90	30.5	1.09	35.5	1.29	38.0	1.40	41.8	1.53	46.8	1.75	49.4	1.82
	40	25.6	0.92	30.5	1.11	35.5	1.31	38.0	1.42	41.8	1.55	46.8	1.78	49.4	1.85
	45	25.6	0.94	30.5	1.14	35.5	1.34	38.0	1.45	41.8	1.58	46.8	1.81	49.4	1.89
	50	25.6	0.96	30.5	1.16	35.5	1.37	38.0	1.48	41.8	1.62	46.8	1.85	49.4	1.92
	55	25.6	0.97	30.5	1.18	35.5	1.40	38.0	1.51	41.8	1.65	46.8	1.88	48.9	1.95
	60	25.6	1.00	30.5	1.22	35.5	1.45	38.0	1.57	41.8	1.71	46.7	1.94	47.5	1.99
	65	25.6	1.03	30.5	1.25	35.5	1.48	38.0	1.60	41.8	1.74	46.0	2.01	47.0	2.05
	70	25.6	1.06	30.5	1.28	35.5	1.58	38.0	1.74	41.8	1.94	45.1	2.15	46.0	2.19
	75	25.6	1.08	30.5	1.37	35.5	1.69	38.0	1.87	41.8	2.08	44.4	2.25	45.4	2.28
	80	25.6	1.23	30.5	1.56	35.5	1.93	38.0	2.14	41.8	2.38	43.2	2.45	44.0	2.48
	85	25.6	1.31	30.5	1.67	35.5	2.07	38.0	2.28	41.6	2.53	42.5	2.55	43.5	2.58
90	25.6	1.49	30.5	1.89	35.5	2.35	38.0	2.60	40.2	2.73	41.2	2.75	42.1	2.79	
95	25.6	1.58	30.5	2.01	35.5	2.51	38.0	2.77	39.7	2.82	40.5	2.85	41.6	2.89	
100	25.6	1.70	30.5	2.17	35.5	2.71	37.3	2.91	39.0	2.97	40.0	3.00	40.9	3.04	
105	25.6	1.91	30.5	2.45	35.3	3.05	36.3	3.12	37.8	3.18	38.8	3.21	39.7	3.25	
110	25.6	2.14	30.5	2.75	34.9	3.31	35.6	3.32	36.4	3.38	36.9	3.42	37.6	3.47	
115	25.6	2.45	30.5	3.14	33.2	3.46	34.2	3.46	35.1	3.51	35.4	3.52	35.5	3.54	
118	25.6	2.48	26.8	2.95	28.9	2.91	29.8	2.94	30.5	2.98	30.8	2.99	30.7	3.01	
122	21.9	2.24	21.5	2.24	23.0	2.22	23.8	2.22	24.4	2.26	24.7	2.26	24.7	2.29	

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 80°F dry bulb (DB) and 67°F wet bulb (WB), and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).



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	23.1	0.60	27.5	0.72	32.1	0.85	34.3	0.92	36.5	0.98	40.9	1.13	45.3	1.24
	-5	23.1	0.64	27.5	0.76	32.1	0.90	34.3	0.97	36.5	1.04	40.9	1.19	45.3	1.31
	0	23.1	0.66	27.5	0.79	32.1	0.94	34.3	1.01	36.5	1.08	40.9	1.24	45.3	1.36
	5	23.1	0.69	27.5	0.82	32.1	0.97	34.3	1.05	36.5	1.12	40.9	1.29	45.3	1.41
	10	23.1	0.71	27.5	0.85	32.1	1.00	34.3	1.08	36.5	1.15	40.9	1.32	45.3	1.45
	14	23.1	0.73	27.5	0.88	32.1	1.04	34.3	1.12	36.5	1.19	40.9	1.37	45.3	1.51
	20	23.1	0.76	27.5	0.91	32.1	1.08	34.3	1.16	36.5	1.24	40.9	1.42	45.3	1.56
	25	23.1	0.78	27.5	0.94	32.1	1.11	34.3	1.19	36.5	1.28	40.9	1.46	45.3	1.61
	30	23.1	0.80	27.5	0.97	32.1	1.14	34.3	1.23	36.5	1.32	40.9	1.50	45.3	1.66
	35	23.1	0.83	27.5	1.00	32.1	1.17	34.3	1.27	36.5	1.36	40.9	1.55	45.3	1.71
	40	23.1	0.85	27.5	1.03	32.1	1.21	34.3	1.30	36.5	1.40	40.9	1.60	45.3	1.76
	45	23.1	0.87	27.5	1.05	32.1	1.24	34.3	1.34	36.5	1.44	40.9	1.63	45.3	1.80
	50	23.1	0.89	27.5	1.07	32.1	1.27	34.3	1.36	36.5	1.47	40.9	1.67	45.3	1.84
	55	23.1	0.90	27.5	1.09	32.1	1.29	34.3	1.39	36.5	1.50	40.9	1.70	45.3	1.86
	60	23.1	0.94	27.5	1.13	32.1	1.34	34.3	1.45	36.5	1.56	40.9	1.77	44.9	1.88
	65	23.1	0.95	27.5	1.16	32.1	1.36	34.3	1.47	36.5	1.58	40.9	1.80	44.6	1.97
	70	23.1	0.98	27.5	1.19	32.1	1.41	34.3	1.56	36.5	1.70	40.9	2.01	43.8	2.12
	75	23.1	1.00	27.5	1.24	32.1	1.51	34.3	1.67	36.5	1.83	40.9	2.09	43.1	2.22
	80	23.1	1.12	27.5	1.41	32.1	1.73	34.3	1.90	36.5	2.09	40.9	2.32	41.9	2.41
	85	23.1	1.19	27.5	1.50	32.1	1.85	34.3	2.03	36.5	2.23	40.4	2.44	41.2	2.51
90	23.1	1.34	27.5	1.70	32.1	2.10	34.3	2.31	36.5	2.54	39.2	2.67	40.0	2.71	
95	23.1	1.43	27.5	1.80	32.1	2.23	34.3	2.47	36.5	2.71	38.5	2.77	39.4	2.81	
100	23.1	1.48	27.5	1.88	32.1	2.33	34.3	2.56	36.5	2.77	38.0	2.89	38.7	2.92	
105	23.1	1.71	27.5	2.18	32.1	2.63	34.3	2.81	36.1	2.97	36.8	3.10	37.3	3.14	
110	23.1	1.97	27.5	2.52	32.1	2.89	34.3	3.03	34.6	3.22	35.1	3.33	35.3	3.36	
115	23.1	2.13	27.5	2.73	30.0	3.04	32.5	3.17	33.0	3.32	33.3	3.39	33.4	3.44	
118	23.1	2.26	26.8	2.95	26.1	2.56	28.3	2.69	28.7	2.82	29.0	2.88	28.8	2.92	
122	21.9	2.24	21.5	2.24	20.8	1.95	22.6	2.03	23.0	2.13	23.3	2.18	23.2	2.22	
80%	-9.9	20.5	0.52	24.4	0.63	28.5	0.73	30.4	0.79	32.4	0.86	36.3	0.98	40.2	1.09
	-5	20.5	0.55	24.4	0.66	28.5	0.77	30.4	0.84	32.4	0.90	36.3	1.03	40.2	1.15
	0	20.5	0.57	24.4	0.69	28.5	0.80	30.4	0.87	32.4	0.94	36.3	1.07	40.2	1.20
	5	20.5	0.60	24.4	0.72	28.5	0.83	30.4	0.90	32.4	0.98	36.3	1.11	40.2	1.24
	10	20.5	0.61	24.4	0.74	28.5	0.86	30.4	0.93	32.4	1.00	36.3	1.15	40.2	1.28
	14	20.5	0.63	24.4	0.76	28.5	0.89	30.4	0.96	32.4	1.04	36.3	1.19	40.2	1.32
	20	20.5	0.66	24.4	0.79	28.5	0.92	30.4	1.00	32.4	1.08	36.3	1.23	40.2	1.37
	25	20.5	0.68	24.4	0.81	28.5	0.95	30.4	1.03	32.4	1.11	36.3	1.27	40.2	1.42
	30	20.5	0.70	24.4	0.84	28.5	0.98	30.4	1.06	32.4	1.14	36.3	1.30	40.2	1.46
	35	20.5	0.72	24.4	0.86	28.5	1.01	30.4	1.09	32.4	1.17	36.3	1.34	40.2	1.50
	40	20.5	0.74	24.4	0.88	28.5	1.04	30.4	1.12	32.4	1.20	36.3	1.37	40.2	1.54
	45	20.5	0.75	24.4	0.89	28.5	1.05	30.4	1.14	32.4	1.21	36.3	1.39	40.2	1.56
	50	20.5	0.76	24.4	0.91	28.5	1.07	30.4	1.15	32.4	1.23	36.3	1.41	40.2	1.58
	55	20.5	0.77	24.4	0.92	28.5	1.08	30.4	1.17	32.4	1.25	36.3	1.44	40.2	1.61
	60	20.5	0.80	24.4	0.95	28.5	1.12	30.4	1.21	32.4	1.30	36.3	1.49	40.2	1.67
	65	20.5	0.81	24.4	0.97	28.5	1.15	30.4	1.23	32.4	1.33	36.3	1.52	40.2	1.71
	70	20.5	0.83	24.4	1.00	28.5	1.18	30.4	1.27	32.4	1.39	36.3	1.64	40.2	1.89
	75	20.5	0.85	24.4	1.02	28.5	1.24	30.4	1.36	32.4	1.48	36.3	1.74	40.2	2.00
	80	20.5	0.93	24.4	1.16	28.5	1.41	30.4	1.54	32.4	1.69	36.3	2.00	40.2	2.23
	85	20.5	0.99	24.4	1.23	28.5	1.50	30.4	1.65	32.4	1.80	36.3	2.13	40.2	2.29
90	20.5	1.11	24.4	1.40	28.5	1.70	30.4	1.87	32.4	2.05	36.3	2.34	39.5	2.42	
95	20.5	1.18	24.4	1.48	28.5	1.82	30.4	1.99	32.4	2.18	36.3	2.42	38.7	2.49	
100	20.5	1.27	24.4	1.59	28.5	1.96	30.4	2.13	32.4	2.27	36.3	2.52	37.8	2.57	
105	20.5	1.45	24.4	1.82	28.5	2.18	30.4	2.28	32.4	2.43	35.9	2.62	36.7	2.70	
110	20.5	1.65	24.4	2.08	28.5	2.31	30.4	2.44	32.4	2.62	34.6	2.72	34.8	2.84	
115	20.5	1.76	24.4	2.22	28.5	2.39	30.4	2.56	30.4	2.68	30.6	2.78	30.6	2.95	
118	20.5	1.87	24.4	2.36	26.1	2.56	26.7	2.43	26.4	2.28	26.6	2.36	26.4	2.50	
122	20.5	2.02	21.6	2.23	20.8	1.95	21.3	1.84	21.2	1.72	21.4	1.79	21.2	1.90	

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 80°F dry bulb (DB) and 67°F wet bulb (WB), and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).

COOLING CAPACITY DATA



ARUN038GSS4

38,000 Btu/h 208-230V Heat Pump Units

MULTI V S Outdoor Unit Engineering Manual

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
70%	-9.9	18.0	0.46	21.4	0.55	24.9	0.65	26.6	0.69	28.3	0.74	31.7	0.84	35.3	0.94
	-5	18.0	0.49	21.4	0.58	24.9	0.68	26.6	0.73	28.3	0.78	31.7	0.89	35.3	1.00
	0	18.0	0.51	21.4	0.60	24.9	0.71	26.6	0.76	28.3	0.81	31.7	0.93	35.3	1.04
	5	18.0	0.53	21.4	0.62	24.9	0.73	26.6	0.79	28.3	0.84	31.7	0.96	35.3	1.07
	10	18.0	0.54	21.4	0.64	24.9	0.76	26.6	0.81	28.3	0.86	31.7	0.99	35.3	1.11
	14	18.0	0.56	21.4	0.67	24.9	0.78	26.6	0.84	28.3	0.89	31.7	1.02	35.3	1.15
	20	18.0	0.58	21.4	0.69	24.9	0.81	26.6	0.87	28.3	0.92	31.7	1.06	35.3	1.18
	25	18.0	0.60	21.4	0.71	24.9	0.83	26.6	0.89	28.3	0.95	31.7	1.08	35.3	1.22
	30	18.0	0.61	21.4	0.72	24.9	0.85	26.6	0.91	28.3	0.98	31.7	1.11	35.3	1.25
	35	18.0	0.63	21.4	0.75	24.9	0.87	26.6	0.94	28.3	1.00	31.7	1.14	35.3	1.28
	40	18.0	0.64	21.4	0.76	24.9	0.89	26.6	0.96	28.3	1.03	31.7	1.17	35.3	1.31
	45	18.0	0.65	21.4	0.78	24.9	0.91	26.6	0.98	28.3	1.04	31.7	1.19	35.3	1.34
	50	18.0	0.67	21.4	0.79	24.9	0.92	26.6	0.99	28.3	1.06	31.7	1.21	35.3	1.36
	55	18.0	0.68	21.4	0.80	24.9	0.94	26.6	1.01	28.3	1.08	31.7	1.23	35.3	1.39
	60	18.0	0.70	21.4	0.83	24.9	0.97	26.6	1.05	28.3	1.12	31.7	1.28	35.3	1.44
	65	18.0	0.71	21.4	0.85	24.9	0.99	26.6	1.07	28.3	1.14	31.7	1.30	35.3	1.46
	70	18.0	0.73	21.4	0.87	24.9	1.02	26.6	1.10	28.3	1.18	31.7	1.35	35.3	1.55
	75	18.0	0.74	21.4	0.88	24.9	1.04	26.6	1.13	28.3	1.23	31.7	1.44	35.3	1.65
	80	18.0	0.80	21.4	0.98	24.9	1.18	26.6	1.29	28.3	1.40	31.7	1.59	35.3	1.83
	85	18.0	0.85	21.4	1.04	24.9	1.26	26.6	1.37	28.3	1.50	31.7	1.70	35.3	1.90
	90	18.0	0.95	21.4	1.17	24.9	1.42	26.6	1.55	28.3	1.70	31.7	1.89	35.3	2.07
95	18.0	1.00	21.4	1.25	24.9	1.52	26.6	1.66	28.3	1.80	31.7	1.99	35.3	2.13	
100	18.0	1.08	21.4	1.35	24.9	1.64	26.6	1.79	28.3	1.86	31.7	2.08	35.3	2.19	
105	18.0	1.23	21.4	1.53	24.9	1.80	26.6	1.91	28.3	2.02	31.7	2.19	35.3	2.32	
110	18.0	1.39	21.4	1.74	24.9	1.91	26.6	2.02	28.3	2.19	31.7	2.28	34.3	2.49	
115	18.0	1.49	21.4	1.85	24.9	1.97	26.6	2.14	28.3	2.25	31.7	2.35	32.3	2.65	
118	18.0	1.58	21.4	1.97	24.9	2.10	26.6	2.27	25.8	2.25	26.6	2.00	26.4	2.25	
122	18.0	1.71	21.4	2.13	22.3	2.00	21.3	1.86	20.6	1.71	21.4	1.51	21.2	1.71	
60%	-9.9	15.4	0.40	18.3	0.46	21.4	0.55	22.7	0.58	24.3	0.63	27.3	0.71	30.2	0.79
	-5	15.4	0.42	18.3	0.49	21.4	0.58	22.7	0.62	24.3	0.66	27.3	0.75	30.2	0.84
	0	15.4	0.44	18.3	0.51	21.4	0.60	22.7	0.64	24.3	0.69	27.3	0.78	30.2	0.87
	5	15.4	0.46	18.3	0.53	21.4	0.62	22.7	0.66	24.3	0.71	27.3	0.81	30.2	0.90
	10	15.4	0.47	18.3	0.54	21.4	0.64	22.7	0.68	24.3	0.73	27.3	0.83	30.2	0.93
	14	15.4	0.49	18.3	0.56	21.4	0.66	22.7	0.71	24.3	0.76	27.3	0.86	30.2	0.96
	20	15.4	0.50	18.3	0.58	21.4	0.68	22.7	0.73	24.3	0.79	27.3	0.89	30.2	1.00
	25	15.4	0.51	18.3	0.60	21.4	0.70	22.7	0.75	24.3	0.81	27.3	0.91	30.2	1.02
	30	15.4	0.52	18.3	0.62	21.4	0.72	22.7	0.77	24.3	0.83	27.3	0.94	30.2	1.05
	35	15.4	0.54	18.3	0.63	21.4	0.74	22.7	0.79	24.3	0.85	27.3	0.96	30.2	1.08
	40	15.4	0.55	18.3	0.65	21.4	0.76	22.7	0.81	24.3	0.87	27.3	0.99	30.2	1.11
	45	15.4	0.56	18.3	0.66	21.4	0.76	22.7	0.82	24.3	0.88	27.3	0.99	30.2	1.12
	50	15.4	0.56	18.3	0.66	21.4	0.77	22.7	0.83	24.3	0.88	27.3	1.00	30.2	1.13
	55	15.4	0.57	18.3	0.67	21.4	0.78	22.7	0.84	24.3	0.90	27.3	1.02	30.2	1.15
	60	15.4	0.59	18.3	0.70	21.4	0.81	22.7	0.87	24.3	0.93	27.3	1.06	30.2	1.19
	65	15.4	0.60	18.3	0.71	21.4	0.83	22.7	0.89	24.3	0.95	27.3	1.08	30.2	1.22
	70	15.4	0.61	18.3	0.73	21.4	0.85	22.7	0.91	24.3	0.98	27.3	1.11	30.2	1.26
	75	15.4	0.62	18.3	0.74	21.4	0.87	22.7	0.93	24.3	1.01	27.3	1.18	30.2	1.34
	80	15.4	0.66	18.3	0.81	21.4	0.97	22.7	1.06	24.3	1.15	27.3	1.32	30.2	1.52
	85	15.4	0.70	18.3	0.86	21.4	1.03	22.7	1.13	24.3	1.23	27.3	1.39	30.2	1.57
	90	15.4	0.79	18.3	0.97	21.4	1.17	22.7	1.27	24.3	1.38	27.3	1.55	30.2	1.71
95	15.4	0.83	18.3	1.03	21.4	1.24	22.7	1.36	24.3	1.46	27.3	1.62	30.2	1.80	
100	15.4	0.90	18.3	1.10	21.4	1.33	22.7	1.46	24.3	1.53	27.3	1.72	30.2	1.88	
105	15.4	1.02	18.3	1.26	21.4	1.47	22.7	1.56	24.3	1.66	27.3	1.83	30.2	2.05	
110	15.4	1.15	18.3	1.43	21.4	1.59	22.7	1.65	24.3	1.79	27.3	1.96	30.2	2.23	
115	15.4	1.23	18.3	1.52	21.4	1.65	22.7	1.75	24.3	1.86	27.3	2.07	30.2	2.39	
118	15.4	1.30	18.3	1.62	21.4	1.75	22.7	1.86	24.3	1.98	26.6	2.00	26.4	2.25	
122	15.4	1.40	18.3	1.75	21.4	1.90	21.2	1.89	20.6	1.75	21.4	1.51	21.2	1.71	

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.
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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	12.8	0.34	15.3	0.41	17.8	0.45	19.0	0.49	20.2	0.53	22.7	0.58	25.1	0.65
	-5	12.8	0.36	15.3	0.43	17.8	0.48	19.0	0.52	20.2	0.55	22.7	0.62	25.1	0.68
	0	12.8	0.38	15.3	0.44	17.8	0.50	19.0	0.54	20.2	0.58	22.7	0.64	25.1	0.71
	5	12.8	0.39	15.3	0.46	17.8	0.52	19.0	0.56	20.2	0.60	22.7	0.66	25.1	0.74
	10	12.8	0.40	15.3	0.47	17.8	0.53	19.0	0.57	20.2	0.62	22.7	0.68	25.1	0.76
	14	12.8	0.42	15.3	0.49	17.8	0.55	19.0	0.59	20.2	0.64	22.7	0.71	25.1	0.78
	20	12.8	0.43	15.3	0.51	17.8	0.57	19.0	0.61	20.2	0.66	22.7	0.73	25.1	0.81
	25	12.8	0.45	15.3	0.52	17.8	0.59	19.0	0.63	20.2	0.68	22.7	0.75	25.1	0.84
	30	12.8	0.46	15.3	0.53	17.8	0.61	19.0	0.65	20.2	0.69	22.7	0.78	25.1	0.86
	35	12.8	0.47	15.3	0.55	17.8	0.63	19.0	0.67	20.2	0.71	22.7	0.80	25.1	0.89
	40	12.8	0.48	15.3	0.56	17.8	0.64	19.0	0.68	20.2	0.73	22.7	0.82	25.1	0.91
	45	12.8	0.49	15.3	0.57	17.8	0.65	19.0	0.69	20.2	0.74	22.7	0.83	25.1	0.92
	50	12.8	0.50	15.3	0.58	17.8	0.66	19.0	0.70	20.2	0.75	22.7	0.84	25.1	0.94
	55	12.8	0.51	15.3	0.59	17.8	0.67	19.0	0.71	20.2	0.76	22.7	0.86	25.1	0.95
	60	12.8	0.52	15.3	0.60	17.8	0.69	19.0	0.74	20.2	0.79	22.7	0.88	25.1	0.99
	65	12.8	0.52	15.3	0.61	17.8	0.70	19.0	0.75	20.2	0.80	22.7	0.90	25.1	1.00
	70	12.8	0.54	15.3	0.62	17.8	0.72	19.0	0.77	20.2	0.82	22.7	0.93	25.1	1.04
	75	12.8	0.54	15.3	0.63	17.8	0.73	19.0	0.78	20.2	0.84	22.7	0.94	25.1	1.06
	80	12.8	0.56	15.3	0.67	17.8	0.79	19.0	0.85	20.2	0.91	22.7	1.05	25.1	1.20
	85	12.8	0.60	15.3	0.71	17.8	0.84	19.0	0.90	20.2	0.97	22.7	1.12	25.1	1.28
90	12.8	0.67	15.3	0.79	17.8	0.94	19.0	1.01	20.2	1.09	22.7	1.26	25.1	1.45	
95	12.8	0.70	15.3	0.84	17.8	0.99	19.0	1.08	20.2	1.16	22.7	1.34	25.1	1.54	
100	12.8	0.74	15.3	0.89	17.8	1.05	19.0	1.14	20.2	1.23	22.7	1.43	25.1	1.63	
105	12.8	0.81	15.3	0.98	17.8	1.16	19.0	1.26	20.2	1.36	22.7	1.58	25.1	1.82	
110	12.8	0.89	15.3	1.08	17.8	1.29	19.0	1.40	20.2	1.52	22.7	1.77	25.1	2.03	
115	12.8	0.96	15.3	1.16	17.8	1.39	19.0	1.51	20.2	1.63	22.7	1.90	25.1	2.19	
118	12.8	1.03	15.3	1.26	17.8	1.51	19.0	1.64	20.2	1.78	22.7	2.00	25.1	2.25	
122	12.8	1.14	15.3	1.39	17.8	1.66	19.0	1.82	20.2	1.75	21.4	1.51	21.2	1.71	

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

COOLING CAPACITY DATA



ARUN048GSS4

48,000 Btu/h 208-230V Heat Pump Units

MULTI V S Outdoor Unit Engineering Manual

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
130%	-9.9	43.6	1.38	51.8	1.67	60.3	1.98	62.5	2.14	63.4	2.31	65.6	2.65	67.1	2.73
	-5	43.6	1.45	51.8	1.76	60.3	2.09	62.5	2.26	63.4	2.44	65.6	2.79	67.1	2.89
	0	43.6	1.51	51.8	1.83	60.3	2.18	62.5	2.35	63.4	2.53	65.6	2.91	67.1	3.00
	5	43.6	1.57	51.8	1.90	60.3	2.26	62.5	2.43	63.4	2.63	65.6	3.01	67.1	3.11
	10	43.6	1.61	51.8	1.96	60.3	2.32	62.5	2.50	63.4	2.70	65.6	3.10	67.1	3.20
	14	43.6	1.67	51.8	2.03	60.3	2.41	62.5	2.60	63.4	2.80	65.6	3.21	67.1	3.32
	20	43.6	1.70	51.8	2.06	60.3	2.44	62.5	2.64	63.4	2.84	65.6	3.25	67.1	3.36
	25	43.6	1.72	51.8	2.09	60.3	2.47	62.5	2.67	63.4	2.87	65.6	3.29	67.1	3.40
	30	43.6	1.75	51.8	2.11	60.3	2.50	62.5	2.70	63.4	2.90	65.6	3.33	67.1	3.44
	35	43.6	1.77	51.8	2.14	60.3	2.53	62.5	2.73	63.4	2.94	65.6	3.37	67.1	3.49
	40	43.6	1.79	51.8	2.16	60.3	2.56	62.5	2.77	63.4	2.97	65.6	3.41	67.1	3.53
	45	43.6	1.81	51.8	2.19	60.3	2.59	62.5	2.79	63.4	3.00	65.6	3.44	67.1	3.56
	50	43.6	1.82	51.8	2.21	60.3	2.61	62.5	2.82	63.4	3.03	65.6	3.48	67.1	3.60
	55	43.6	1.85	51.8	2.25	60.3	2.66	61.6	2.88	62.5	3.09	64.7	3.54	66.2	3.62
	60	43.6	1.92	51.8	2.33	59.4	2.77	60.2	2.99	60.9	3.22	63.1	3.65	64.7	3.66
	65	43.6	1.96	51.8	2.38	58.5	2.82	59.4	3.05	60.0	3.28	62.2	3.77	63.8	3.80
	70	43.6	1.88	51.8	2.29	57.4	2.81	58.1	3.10	58.9	3.40	61.1	3.77	62.7	3.81
	75	43.6	1.93	51.8	2.44	56.5	3.01	57.2	3.32	58.1	3.64	60.2	3.95	61.8	3.98
	80	43.6	2.19	51.8	2.78	54.9	3.44	55.6	3.80	56.5	4.18	58.6	4.29	60.2	4.33
	85	43.6	2.33	51.8	2.96	54.1	3.68	54.9	4.06	55.6	4.43	57.7	4.47	59.3	4.51
	90	43.6	2.64	51.0	3.37	52.5	4.18	53.2	4.62	54.1	4.78	56.2	4.82	57.7	4.86
95	44.1	2.80	50.6	3.58	52.2	4.46	53.1	4.93	53.7	4.95	55.9	5.00	57.4	5.04	
100	44.1	3.04	49.7	3.88	51.3	4.83	52.2	5.19	52.8	5.22	55.2	5.27	56.8	5.31	
105	44.1	3.42	48.4	4.39	49.9	5.45	50.7	5.58	51.5	5.61	53.3	5.66	54.0	5.71	
110	44.1	3.84	46.4	4.94	48.3	5.95	48.5	5.98	49.2	6.00	50.2	6.06	50.4	6.11	
115	43.9	4.45	44.7	5.69	44.7	6.27	44.7	6.27	44.7	6.27	45.3	6.28	45.5	6.29	
118	38.2	3.77	38.9	4.82	38.9	5.27	38.9	5.32	38.9	5.32	39.5	5.33	39.3	5.34	
122	30.5	2.86	31.2	3.66	31.0	4.01	31.1	4.02	31.2	4.03	31.7	4.04	31.6	4.06	
120%	-9.9	39.7	1.30	47.4	1.57	55.1	1.86	59.0	2.01	61.7	2.17	64.5	2.48	65.8	2.57
	-5	39.7	1.37	47.4	1.66	55.1	1.97	59.0	2.12	61.7	2.29	64.5	2.62	65.8	2.71
	0	39.7	1.42	47.4	1.73	55.1	2.04	59.0	2.20	61.7	2.38	64.5	2.73	65.8	2.82
	5	39.7	1.48	47.4	1.79	55.1	2.12	59.0	2.28	61.7	2.46	64.5	2.82	65.8	2.92
	10	39.7	1.52	47.4	1.84	55.1	2.18	59.0	2.35	61.7	2.53	64.5	2.91	65.8	3.00
	14	39.7	1.57	47.4	1.91	55.1	2.26	59.0	2.44	61.7	2.63	64.5	3.01	65.8	3.11
	20	39.7	1.60	47.4	1.94	55.1	2.29	59.0	2.47	61.7	2.66	64.5	3.05	65.8	3.16
	25	39.7	1.62	47.4	1.96	55.1	2.32	59.0	2.50	61.7	2.70	64.5	3.09	65.8	3.20
	30	39.7	1.64	47.4	1.98	55.1	2.35	59.0	2.54	61.7	2.73	64.5	3.12	65.8	3.23
	35	39.7	1.66	47.4	2.01	55.1	2.37	59.0	2.57	61.7	2.76	64.5	3.16	65.8	3.27
	40	39.7	1.68	47.4	2.03	55.1	2.40	59.0	2.60	61.7	2.79	64.5	3.20	65.8	3.31
	45	39.7	1.70	47.4	2.06	55.1	2.43	59.0	2.63	61.7	2.83	64.5	3.24	65.8	3.35
	50	39.7	1.72	47.4	2.08	55.1	2.46	59.0	2.66	61.7	2.86	64.5	3.28	65.8	3.39
	55	39.7	1.75	47.4	2.12	55.1	2.51	59.0	2.72	61.0	2.91	63.6	3.33	65.1	3.41
	60	39.7	1.80	47.4	2.19	55.1	2.61	58.6	2.82	59.3	3.03	62.0	3.44	63.3	3.50
	65	39.7	1.84	47.4	2.24	55.1	2.66	57.7	2.88	58.6	3.09	61.1	3.55	62.7	3.58
	70	39.7	1.81	47.4	2.19	55.1	2.70	56.6	2.97	57.3	3.26	60.0	3.62	61.3	3.66
	75	39.7	1.85	47.4	2.34	55.1	2.89	55.7	3.19	56.6	3.50	59.1	3.79	60.7	3.82
	80	39.7	2.10	47.4	2.66	53.5	3.31	54.2	3.65	54.9	4.01	57.5	4.12	58.9	4.16
	85	39.7	2.24	47.4	2.85	52.7	3.53	53.3	3.89	54.2	4.25	56.6	4.29	58.2	4.33
	90	39.7	2.54	47.4	3.23	51.1	4.01	51.8	4.44	52.4	4.59	55.1	4.62	56.4	4.67
95	40.1	2.69	47.9	3.44	50.8	4.28	51.4	4.73	52.3	4.75	54.7	4.80	56.3	4.84	
100	40.1	2.91	47.9	3.72	49.9	4.64	50.8	4.98	51.4	5.01	54.1	5.06	55.4	5.10	
105	40.1	3.28	47.1	4.21	48.6	5.24	49.4	5.36	50.0	5.39	52.5	5.43	53.4	5.48	
110	40.1	3.69	45.9	4.75	47.4	5.71	47.6	5.74	48.3	5.76	49.8	5.81	50.0	5.87	
115	39.0	4.27	44.3	5.46	44.3	6.02	44.3	6.02	44.3	6.02	45.3	6.03	45.5	6.04	
118	34.8	3.77	38.5	4.63	38.5	5.06	38.5	5.11	38.5	5.11	39.5	5.12	39.3	5.13	
122	27.8	2.86	30.9	3.52	30.7	3.85	30.8	3.86	30.9	3.87	31.7	3.88	31.6	3.89	

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 80°F dry bulb (DB) and 67°F wet bulb (WB), and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).



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
110%	-9.9	36.8	1.19	43.9	1.44	51.0	1.71	54.6	1.85	58.1	1.98	64.0	2.26	65.4	2.35
	-5	36.8	1.26	43.9	1.52	51.0	1.80	54.6	1.95	58.1	2.09	64.0	2.39	65.4	2.48
	0	36.8	1.31	43.9	1.58	51.0	1.87	54.6	2.03	58.1	2.18	64.0	2.48	65.4	2.58
	5	36.8	1.36	43.9	1.64	51.0	1.94	54.6	2.11	58.1	2.26	64.0	2.58	65.4	2.67
	10	36.8	1.40	43.9	1.69	51.0	2.00	54.6	2.17	58.1	2.32	64.0	2.65	65.4	2.75
	14	36.8	1.45	43.9	1.75	51.0	2.07	54.6	2.25	58.1	2.41	64.0	2.75	65.4	2.85
	20	36.8	1.47	43.9	1.78	51.0	2.10	54.6	2.28	58.1	2.44	64.0	2.79	65.4	2.89
	25	36.8	1.49	43.9	1.80	51.0	2.13	54.6	2.30	58.1	2.47	64.0	2.83	65.4	2.93
	30	36.8	1.51	43.9	1.82	51.0	2.15	54.6	2.33	58.1	2.50	64.0	2.87	65.4	2.97
	35	36.8	1.53	43.9	1.85	51.0	2.18	54.6	2.36	58.1	2.54	64.0	2.91	65.4	3.01
	40	36.8	1.55	43.9	1.87	51.0	2.22	54.6	2.40	58.1	2.58	64.0	2.95	65.4	3.05
	45	36.8	1.58	43.9	1.90	51.0	2.25	54.6	2.44	58.1	2.62	64.0	3.00	65.4	3.10
	50	36.8	1.60	43.9	1.94	51.0	2.29	54.6	2.48	58.1	2.66	64.0	3.05	65.4	3.15
	55	36.8	1.63	43.9	1.97	51.0	2.33	54.6	2.53	58.1	2.71	63.1	3.10	64.5	3.18
	60	36.8	1.68	43.9	2.04	51.0	2.43	54.6	2.63	58.1	2.82	61.5	3.20	62.9	3.23
	65	36.8	1.71	43.9	2.09	51.0	2.48	54.6	2.68	58.1	2.87	60.6	3.31	62.0	3.33
	70	36.8	1.73	43.9	2.10	51.0	2.59	54.6	2.85	57.0	3.13	59.5	3.47	60.8	3.51
	75	36.8	1.78	43.9	2.24	51.0	2.77	54.6	3.06	56.1	3.35	58.6	3.64	59.9	3.66
	80	36.4	2.02	43.5	2.56	50.5	3.17	53.3	3.50	54.0	3.85	56.4	3.95	57.8	3.98
	85	36.4	2.15	43.5	2.73	50.5	3.39	52.5	3.73	53.1	4.08	55.5	4.11	56.9	4.15
90	36.4	2.43	43.5	3.10	50.3	3.85	50.9	4.25	51.6	4.40	54.0	4.43	55.3	4.48	
95	36.4	2.58	43.5	3.30	49.4	4.11	50.0	4.54	50.7	4.56	53.1	4.60	54.4	4.64	
100	36.4	2.79	43.5	3.57	48.7	4.45	49.4	4.78	50.0	4.80	52.4	4.85	53.7	4.89	
105	36.4	3.15	43.5	4.04	47.2	5.02	47.9	5.14	48.5	5.16	50.8	5.21	52.1	5.26	
110	36.4	3.54	43.5	4.55	45.7	5.48	45.9	5.50	46.6	5.52	48.0	5.57	48.2	5.63	
115	36.4	4.09	43.5	5.23	43.8	5.77	43.8	5.77	44.0	5.77	44.9	5.78	45.1	5.79	
118	35.2	3.73	37.8	4.43	38.1	4.85	38.1	4.90	38.3	4.90	39.1	4.91	38.9	4.92	
122	28.1	2.83	30.3	3.37	30.4	3.69	30.5	3.70	30.7	3.71	31.4	3.72	31.3	3.73	
100%	-9.9	32.4	1.05	38.6	1.27	44.8	1.50	48.0	1.64	52.8	1.77	59.2	2.04	62.5	2.13
	-5	32.4	1.11	38.6	1.34	44.8	1.59	48.0	1.73	52.8	1.87	59.2	2.16	62.5	2.25
	0	32.4	1.15	38.6	1.39	44.8	1.65	48.0	1.80	52.8	1.95	59.2	2.24	62.5	2.34
	5	32.4	1.20	38.6	1.44	44.8	1.71	48.0	1.86	52.8	2.02	59.2	2.33	62.5	2.42
	10	32.4	1.23	38.6	1.48	44.8	1.76	48.0	1.92	52.8	2.07	59.2	2.39	62.5	2.49
	14	32.4	1.27	38.6	1.54	44.8	1.82	48.0	1.99	52.8	2.15	59.2	2.48	62.5	2.58
	20	32.4	1.31	38.6	1.59	44.8	1.88	48.0	2.04	52.8	2.22	59.2	2.55	62.5	2.66
	25	32.4	1.35	38.6	1.63	44.8	1.93	48.0	2.09	52.8	2.27	59.2	2.61	62.5	2.72
	30	32.4	1.38	38.6	1.67	44.8	1.98	48.0	2.14	52.8	2.33	59.2	2.67	62.5	2.78
	35	32.4	1.40	38.6	1.70	44.8	2.01	48.0	2.17	52.8	2.37	59.2	2.72	62.5	2.83
	40	32.4	1.43	38.6	1.73	44.8	2.04	48.0	2.21	52.8	2.41	59.2	2.76	62.5	2.87
	45	32.4	1.46	38.6	1.76	44.8	2.08	48.0	2.25	52.8	2.46	59.2	2.82	62.5	2.93
	50	32.4	1.49	38.6	1.80	44.8	2.13	48.0	2.30	52.8	2.51	59.2	2.87	62.5	2.99
	55	32.4	1.51	38.6	1.83	44.8	2.17	48.0	2.35	52.8	2.56	59.2	2.92	61.8	3.03
	60	32.4	1.56	38.6	1.90	44.8	2.26	48.0	2.44	52.8	2.66	58.9	3.02	60.0	3.09
	65	32.4	1.59	38.6	1.94	44.8	2.30	48.0	2.49	52.8	2.71	58.0	3.12	59.4	3.18
	70	32.4	1.64	38.6	1.99	44.8	2.45	48.0	2.70	52.8	3.01	56.9	3.34	58.0	3.40
	75	32.4	1.68	38.6	2.13	44.8	2.63	48.0	2.90	52.8	3.22	56.1	3.50	57.4	3.54
	80	32.4	1.91	38.6	2.42	44.8	3.00	48.0	3.32	52.8	3.70	54.5	3.80	55.6	3.85
	85	32.4	2.04	38.6	2.58	44.8	3.21	48.0	3.54	52.5	3.92	53.6	3.96	55.0	4.01
90	32.4	2.31	38.6	2.94	44.8	3.64	48.0	4.03	50.8	4.23	52.1	4.26	53.2	4.33	
95	32.4	2.45	38.6	3.13	44.8	3.89	48.0	4.30	50.1	4.38	51.2	4.42	52.5	4.49	
100	32.4	2.64	38.6	3.37	44.8	4.21	47.1	4.52	49.2	4.61	50.5	4.65	51.7	4.72	
105	32.4	2.97	38.6	3.80	44.5	4.73	45.8	4.84	47.8	4.94	49.0	4.98	50.2	5.05	
110	32.4	3.32	38.6	4.27	44.0	5.13	45.0	5.16	45.9	5.25	46.7	5.31	47.5	5.38	
115	32.4	3.81	38.6	4.87	41.9	5.38	43.2	5.38	44.3	5.46	44.7	5.47	44.9	5.50	
118	32.4	3.84	33.8	4.57	36.5	4.52	37.6	4.56	38.6	4.63	38.9	4.64	38.8	4.67	
122	27.7	3.48	27.1	3.48	29.1	3.44	30.1	3.45	30.9	3.50	31.2	3.52	31.2	3.55	

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 80°F dry bulb (DB) and 67°F wet bulb (WB), and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).

COOLING CAPACITY DATA



ARUN048GSS4

48,000 Btu/h 208-230V Heat Pump Units

MULTI V S Outdoor Unit Engineering Manual

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
90%	-9.9	29.1	0.94	34.7	1.12	40.5	1.33	43.3	1.43	46.1	1.53	51.6	1.76	57.2	1.93
	-5	29.1	0.99	34.7	1.19	40.5	1.40	43.3	1.51	46.1	1.61	51.6	1.85	57.2	2.03
	0	29.1	1.03	34.7	1.23	40.5	1.46	43.3	1.57	46.1	1.67	51.6	1.93	57.2	2.12
	5	29.1	1.07	34.7	1.28	40.5	1.51	43.3	1.62	46.1	1.74	51.6	2.00	57.2	2.19
	10	29.1	1.10	34.7	1.32	40.5	1.55	43.3	1.67	46.1	1.79	51.6	2.06	57.2	2.26
	14	29.1	1.14	34.7	1.36	40.5	1.61	43.3	1.73	46.1	1.85	51.6	2.13	57.2	2.34
	20	29.1	1.18	34.7	1.41	40.5	1.67	43.3	1.80	46.1	1.93	51.6	2.21	57.2	2.43
	25	29.1	1.21	34.7	1.46	40.5	1.72	43.3	1.85	46.1	1.99	51.6	2.27	57.2	2.50
	30	29.1	1.25	34.7	1.50	40.5	1.77	43.3	1.91	46.1	2.06	51.6	2.33	57.2	2.58
	35	29.1	1.29	34.7	1.55	40.5	1.82	43.3	1.97	46.1	2.12	51.6	2.40	57.2	2.66
	40	29.1	1.32	34.7	1.59	40.5	1.88	43.3	2.03	46.1	2.18	51.6	2.48	57.2	2.73
	45	29.1	1.35	34.7	1.63	40.5	1.92	43.3	2.07	46.1	2.23	51.6	2.53	57.2	2.80
	50	29.1	1.38	34.7	1.67	40.5	1.96	43.3	2.12	46.1	2.28	51.6	2.59	57.2	2.86
	55	29.1	1.40	34.7	1.69	40.5	2.00	43.3	2.16	46.1	2.32	51.6	2.64	57.2	2.89
	60	29.1	1.45	34.7	1.76	40.5	2.08	43.3	2.25	46.1	2.42	51.6	2.74	56.7	2.92
	65	29.1	1.48	34.7	1.79	40.5	2.12	43.3	2.29	46.1	2.46	51.6	2.79	56.4	3.07
	70	29.1	1.52	34.7	1.85	40.5	2.20	43.3	2.42	46.1	2.64	51.6	3.12	55.3	3.29
	75	29.1	1.55	34.7	1.93	40.5	2.35	43.3	2.59	46.1	2.84	51.6	3.25	54.4	3.44
	80	29.1	1.73	34.7	2.19	40.5	2.68	43.3	2.96	46.1	3.24	51.6	3.59	52.9	3.74
	85	29.1	1.85	34.7	2.33	40.5	2.87	43.3	3.15	46.1	3.46	51.0	3.79	52.1	3.90
90	29.1	2.08	34.7	2.64	40.5	3.25	43.3	3.59	46.1	3.94	49.5	4.14	50.6	4.20	
95	29.1	2.22	34.7	2.80	40.5	3.47	43.3	3.83	46.1	4.20	48.6	4.30	49.7	4.36	
100	29.1	2.29	34.7	2.92	40.5	3.61	43.3	3.98	46.1	4.30	48.0	4.49	48.9	4.53	
105	29.1	2.66	34.7	3.39	40.5	4.09	43.3	4.36	45.6	4.61	46.5	4.81	47.1	4.87	
110	29.1	3.05	34.7	3.91	40.5	4.48	43.3	4.70	43.7	4.99	44.3	5.16	44.6	5.22	
115	29.1	3.31	34.7	4.24	37.9	4.72	41.0	4.92	41.6	5.15	42.0	5.27	42.2	5.33	
118	29.1	3.51	33.8	4.57	33.0	3.97	35.7	4.18	36.2	4.37	36.6	4.47	36.4	4.53	
122	27.7	3.48	27.1	3.48	26.3	3.02	28.6	3.16	29.0	3.31	29.4	3.39	29.3	3.44	
80%	-9.9	25.9	0.81	30.9	0.98	36.0	1.14	38.4	1.23	40.9	1.33	45.9	1.52	50.8	1.69
	-5	25.9	0.86	30.9	1.03	36.0	1.20	38.4	1.30	40.9	1.40	45.9	1.60	50.8	1.79
	0	25.9	0.89	30.9	1.07	36.0	1.25	38.4	1.35	40.9	1.46	45.9	1.67	50.8	1.86
	5	25.9	0.92	30.9	1.11	36.0	1.29	38.4	1.40	40.9	1.51	45.9	1.73	50.8	1.93
	10	25.9	0.95	30.9	1.14	36.0	1.33	38.4	1.44	40.9	1.56	45.9	1.78	50.8	1.98
	14	25.9	0.98	30.9	1.19	36.0	1.38	38.4	1.50	40.9	1.61	45.9	1.84	50.8	2.05
	20	25.9	1.02	30.9	1.23	36.0	1.43	38.4	1.55	40.9	1.67	45.9	1.91	50.8	2.13
	25	25.9	1.05	30.9	1.26	36.0	1.48	38.4	1.60	40.9	1.72	45.9	1.97	50.8	2.20
	30	25.9	1.08	30.9	1.30	36.0	1.53	38.4	1.65	40.9	1.76	45.9	2.02	50.8	2.26
	35	25.9	1.11	30.9	1.34	36.0	1.57	38.4	1.69	40.9	1.81	45.9	2.08	50.8	2.33
	40	25.9	1.14	30.9	1.37	36.0	1.61	38.4	1.74	40.9	1.86	45.9	2.13	50.8	2.39
	45	25.9	1.16	30.9	1.39	36.0	1.63	38.4	1.76	40.9	1.88	45.9	2.16	50.8	2.42
	50	25.9	1.18	30.9	1.41	36.0	1.65	38.4	1.79	40.9	1.91	45.9	2.19	50.8	2.45
	55	25.9	1.19	30.9	1.43	36.0	1.68	38.4	1.82	40.9	1.95	45.9	2.23	50.8	2.50
	60	25.9	1.24	30.9	1.48	36.0	1.74	38.4	1.88	40.9	2.02	45.9	2.31	50.8	2.60
	65	25.9	1.25	30.9	1.51	36.0	1.78	38.4	1.92	40.9	2.07	45.9	2.35	50.8	2.66
	70	25.9	1.29	30.9	1.55	36.0	1.83	38.4	1.98	40.9	2.15	45.9	2.54	50.8	2.94
	75	25.9	1.31	30.9	1.58	36.0	1.92	38.4	2.11	40.9	2.29	45.9	2.70	50.8	3.10
	80	25.9	1.44	30.9	1.80	36.0	2.19	38.4	2.39	40.9	2.62	45.9	3.11	50.8	3.46
	85	25.9	1.53	30.9	1.91	36.0	2.34	38.4	2.56	40.9	2.80	45.9	3.31	50.8	3.55
90	25.9	1.73	30.9	2.17	36.0	2.64	38.4	2.90	40.9	3.18	45.9	3.64	50.0	3.76	
95	25.9	1.83	30.9	2.29	36.0	2.82	38.4	3.08	40.9	3.39	45.9	3.76	48.9	3.87	
100	25.9	1.98	30.9	2.47	36.0	3.04	38.4	3.30	40.9	3.52	45.9	3.92	47.8	3.99	
105	25.9	2.25	30.9	2.83	36.0	3.38	38.4	3.54	40.9	3.78	45.3	4.07	46.4	4.19	
110	25.9	2.56	30.9	3.23	36.0	3.59	38.4	3.78	40.9	4.07	43.7	4.22	43.9	4.40	
115	25.9	2.74	30.9	3.45	36.0	3.71	38.4	3.98	38.4	4.16	38.6	4.32	38.6	4.58	
118	25.9	2.90	30.9	3.66	33.0	3.97	33.7	3.78	33.4	3.53	33.6	3.66	33.3	3.89	
122	25.9	3.14	27.2	3.45	26.3	3.02	26.9	2.86	26.8	2.67	27.0	2.78	26.8	2.95	

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 80°F dry bulb (DB) and 67°F wet bulb (WB), and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).



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	0.72	27.0	0.85	31.5	1.00	33.6	1.07	35.8	1.14	40.1	1.31	44.6	1.47
	-5	22.7	0.76	27.0	0.90	31.5	1.06	33.6	1.13	35.8	1.21	40.1	1.38	44.6	1.55
	0	22.7	0.79	27.0	0.94	31.5	1.10	33.6	1.18	35.8	1.26	40.1	1.44	44.6	1.61
	5	22.7	0.82	27.0	0.97	31.5	1.14	33.6	1.22	35.8	1.30	40.1	1.49	44.6	1.67
	10	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	1.72
	14	22.7	0.87	27.0	1.03	31.5	1.22	33.6	1.30	35.8	1.39	40.1	1.59	44.6	1.78
	20	22.7	0.90	27.0	1.07	31.5	1.25	33.6	1.34	35.8	1.43	40.1	1.64	44.6	1.84
	25	22.7	0.92	27.0	1.10	31.5	1.29	33.6	1.38	35.8	1.47	40.1	1.68	44.6	1.89
	30	22.7	0.95	27.0	1.13	31.5	1.32	33.6	1.42	35.8	1.51	40.1	1.72	44.6	1.94
	35	22.7	0.98	27.0	1.16	31.5	1.35	33.6	1.45	35.8	1.56	40.1	1.77	44.6	1.99
	40	22.7	1.00	27.0	1.19	31.5	1.39	33.6	1.49	35.8	1.60	40.1	1.82	44.6	2.04
	45	22.7	1.01	27.0	1.20	31.5	1.41	33.6	1.52	35.8	1.62	40.1	1.84	44.6	2.07
	50	22.7	1.03	27.0	1.22	31.5	1.43	33.6	1.54	35.8	1.65	40.1	1.88	44.6	2.11
	55	22.7	1.05	27.0	1.25	31.5	1.46	33.6	1.56	35.8	1.68	40.1	1.91	44.6	2.15
	60	22.7	1.08	27.0	1.29	31.5	1.51	33.6	1.62	35.8	1.74	40.1	1.98	44.6	2.23
	65	22.7	1.10	27.0	1.31	31.5	1.53	33.6	1.65	35.8	1.77	40.1	2.02	44.6	2.27
	70	22.7	1.13	27.0	1.35	31.5	1.58	33.6	1.70	35.8	1.83	40.1	2.09	44.6	2.41
	75	22.7	1.15	27.0	1.37	31.5	1.61	33.6	1.76	35.8	1.91	40.1	2.23	44.6	2.55
	80	22.7	1.24	27.0	1.52	31.5	1.83	33.6	2.00	35.8	2.17	40.1	2.47	44.6	2.83
	85	22.7	1.31	27.0	1.61	31.5	1.95	33.6	2.13	35.8	2.34	40.1	2.63	44.6	2.95
90	22.7	1.48	27.0	1.82	31.5	2.21	33.6	2.41	35.8	2.64	40.1	2.93	44.6	3.21	
95	22.7	1.56	27.0	1.94	31.5	2.35	33.6	2.57	35.8	2.80	40.1	3.09	44.6	3.30	
100	22.7	1.68	27.0	2.09	31.5	2.54	33.6	2.78	35.8	2.88	40.1	3.23	44.6	3.40	
105	22.7	1.91	27.0	2.38	31.5	2.80	33.6	2.96	35.8	3.13	40.1	3.40	44.6	3.59	
110	22.7	2.15	27.0	2.70	31.5	2.96	33.6	3.14	35.8	3.40	40.1	3.54	43.3	3.87	
115	22.7	2.31	27.0	2.88	31.5	3.06	33.6	3.32	35.8	3.50	40.1	3.65	40.8	4.11	
118	22.7	2.45	27.0	3.06	31.5	3.26	33.6	3.52	32.6	3.50	33.6	3.10	33.3	3.49	
122	22.7	2.65	27.0	3.31	28.1	3.11	26.9	2.89	26.1	2.65	27.0	2.35	26.8	2.65	
60%	-9.9	19.5	0.62	23.1	0.72	27.0	0.85	28.7	0.90	30.6	0.97	34.5	1.10	38.1	1.23
	-5	19.5	0.66	23.1	0.76	27.0	0.89	28.7	0.95	30.6	1.03	34.5	1.16	38.1	1.30
	0	19.5	0.68	23.1	0.79	27.0	0.93	28.7	0.99	30.6	1.07	34.5	1.21	38.1	1.35
	5	19.5	0.71	23.1	0.82	27.0	0.96	28.7	1.03	30.6	1.11	34.5	1.25	38.1	1.40
	10	19.5	0.73	23.1	0.84	27.0	0.99	28.7	1.06	30.6	1.14	34.5	1.29	38.1	1.44
	14	19.5	0.75	23.1	0.88	27.0	1.03	28.7	1.10	30.6	1.18	34.5	1.34	38.1	1.50
	20	19.5	0.78	23.1	0.91	27.0	1.06	28.7	1.14	30.6	1.22	34.5	1.38	38.1	1.55
	25	19.5	0.80	23.1	0.93	27.0	1.09	28.7	1.17	30.6	1.25	34.5	1.42	38.1	1.59
	30	19.5	0.81	23.1	0.96	27.0	1.12	28.7	1.20	30.6	1.28	34.5	1.46	38.1	1.63
	35	19.5	0.83	23.1	0.98	27.0	1.14	28.7	1.23	30.6	1.32	34.5	1.49	38.1	1.68
	40	19.5	0.86	23.1	1.01	27.0	1.17	28.7	1.26	30.6	1.35	34.5	1.53	38.1	1.72
	45	19.5	0.86	23.1	1.02	27.0	1.18	28.7	1.27	30.6	1.36	34.5	1.54	38.1	1.73
	50	19.5	0.87	23.1	1.03	27.0	1.19	28.7	1.28	30.6	1.37	34.5	1.56	38.1	1.75
	55	19.5	0.88	23.1	1.05	27.0	1.22	28.7	1.31	30.6	1.40	34.5	1.59	38.1	1.78
	60	19.5	0.91	23.1	1.08	27.0	1.26	28.7	1.36	30.6	1.45	34.5	1.64	38.1	1.85
	65	19.5	0.93	23.1	1.10	27.0	1.28	28.7	1.38	30.6	1.48	34.5	1.68	38.1	1.89
	70	19.5	0.95	23.1	1.13	27.0	1.32	28.7	1.42	30.6	1.52	34.5	1.73	38.1	1.96
	75	19.5	0.97	23.1	1.15	27.0	1.34	28.7	1.45	30.6	1.56	34.5	1.83	38.1	2.09
	80	19.5	1.03	23.1	1.25	27.0	1.51	28.7	1.64	30.6	1.78	34.5	2.05	38.1	2.36
	85	19.5	1.09	23.1	1.33	27.0	1.60	28.7	1.75	30.6	1.91	34.5	2.16	38.1	2.43
90	19.5	1.22	23.1	1.51	27.0	1.81	28.7	1.98	30.6	2.14	34.5	2.41	38.1	2.65	
95	19.5	1.30	23.1	1.59	27.0	1.92	28.7	2.11	30.6	2.27	34.5	2.52	38.1	2.79	
100	19.5	1.39	23.1	1.71	27.0	2.07	28.7	2.27	30.6	2.37	34.5	2.67	38.1	2.91	
105	19.5	1.58	23.1	1.95	27.0	2.29	28.7	2.42	30.6	2.58	34.5	2.84	38.1	3.18	
110	19.5	1.78	23.1	2.22	27.0	2.47	28.7	2.57	30.6	2.78	34.5	3.04	38.1	3.47	
115	19.5	1.91	23.1	2.37	27.0	2.56	28.7	2.72	30.6	2.88	34.5	3.21	38.1	3.70	
118	19.5	2.02	23.1	2.51	27.0	2.72	28.7	2.89	30.6	3.07	33.6	3.10	33.3	3.49	
122	19.5	2.17	23.1	2.71	27.0	2.95	26.8	2.93	26.0	2.71	27.0	2.35	26.8	2.65	

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 80°F dry bulb (DB) and 67°F wet bulb (WB), and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).

COOLING CAPACITY DATA



ARUN048GSS4

48,000 Btu/h 208-230V Heat Pump 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	0.53	19.3	0.63	22.5	0.70	24.0	0.76	25.5	0.82	28.7	0.91	31.7	1.00
	-5	16.2	0.56	19.3	0.66	22.5	0.74	24.0	0.80	25.5	0.86	28.7	0.96	31.7	1.06
	0	16.2	0.59	19.3	0.69	22.5	0.77	24.0	0.83	25.5	0.90	28.7	0.99	31.7	1.10
	5	16.2	0.61	19.3	0.72	22.5	0.80	24.0	0.86	25.5	0.93	28.7	1.03	31.7	1.14
	10	16.2	0.63	19.3	0.74	22.5	0.82	24.0	0.89	25.5	0.96	28.7	1.06	31.7	1.18
	14	16.2	0.65	19.3	0.76	22.5	0.85	24.0	0.92	25.5	0.99	28.7	1.10	31.7	1.22
	20	16.2	0.67	19.3	0.79	22.5	0.89	24.0	0.95	25.5	1.02	28.7	1.14	31.7	1.26
	25	16.2	0.69	19.3	0.81	22.5	0.92	24.0	0.98	25.5	1.05	28.7	1.17	31.7	1.30
	30	16.2	0.71	19.3	0.83	22.5	0.95	24.0	1.01	25.5	1.08	28.7	1.21	31.7	1.34
	35	16.2	0.73	19.3	0.85	22.5	0.97	24.0	1.04	25.5	1.11	28.7	1.24	31.7	1.38
	40	16.2	0.75	19.3	0.87	22.5	1.00	24.0	1.06	25.5	1.13	28.7	1.27	31.7	1.41
	45	16.2	0.76	19.3	0.88	22.5	1.01	24.0	1.08	25.5	1.15	28.7	1.29	31.7	1.43
	50	16.2	0.77	19.3	0.89	22.5	1.03	24.0	1.09	25.5	1.17	28.7	1.30	31.7	1.45
	55	16.2	0.79	19.3	0.91	22.5	1.04	24.0	1.11	25.5	1.18	28.7	1.33	31.7	1.48
	60	16.2	0.80	19.3	0.94	22.5	1.08	24.0	1.15	25.5	1.22	28.7	1.37	31.7	1.53
	65	16.2	0.81	19.3	0.95	22.5	1.09	24.0	1.17	25.5	1.24	28.7	1.40	31.7	1.56
	70	16.2	0.84	19.3	0.97	22.5	1.12	24.0	1.20	25.5	1.27	28.7	1.44	31.7	1.61
	75	16.2	0.85	19.3	0.98	22.5	1.14	24.0	1.21	25.5	1.30	28.7	1.46	31.7	1.64
	80	16.2	0.87	19.3	1.04	22.5	1.22	24.0	1.32	25.5	1.42	28.7	1.63	31.7	1.86
	85	16.2	0.93	19.3	1.10	22.5	1.30	24.0	1.40	25.5	1.51	28.7	1.74	31.7	1.99
90	16.2	1.03	19.3	1.23	22.5	1.46	24.0	1.58	25.5	1.70	28.7	1.96	31.7	2.25	
95	16.2	1.09	19.3	1.30	22.5	1.54	24.0	1.67	25.5	1.81	28.7	2.08	31.7	2.39	
100	16.2	1.15	19.3	1.38	22.5	1.63	24.0	1.77	25.5	1.91	28.7	2.22	31.7	2.54	
105	16.2	1.26	19.3	1.52	22.5	1.81	24.0	1.96	25.5	2.12	28.7	2.46	31.7	2.82	
110	16.2	1.39	19.3	1.68	22.5	2.00	24.0	2.17	25.5	2.36	28.7	2.74	31.7	3.15	
115	16.2	1.49	19.3	1.81	22.5	2.15	24.0	2.34	25.5	2.54	28.7	2.95	31.7	3.40	
118	16.2	1.60	19.3	1.96	22.5	2.34	24.0	2.54	25.5	2.76	28.7	3.10	31.7	3.49	
122	16.2	1.77	19.3	2.16	22.5	2.58	24.0	2.82	25.5	2.71	27.0	2.35	26.8	2.65	

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

MULTI V S Outdoor Unit Engineering Manual



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	48.2	1.65	57.2	2.00	66.5	2.37	69.0	2.56	70.0	2.76	72.4	3.16	74.1	3.27
	-5	48.2	1.74	57.2	2.11	66.5	2.50	69.0	2.70	70.0	2.91	72.4	3.34	74.1	3.45
	0	48.2	1.81	57.2	2.19	66.5	2.60	69.0	2.81	70.0	3.03	72.4	3.47	74.1	3.59
	5	48.2	1.87	57.2	2.27	66.5	2.70	69.0	2.91	70.0	3.14	72.4	3.60	74.1	3.72
	10	48.2	1.93	57.2	2.34	66.5	2.78	69.0	2.99	70.0	3.23	72.4	3.70	74.1	3.83
	14	48.2	2.00	57.2	2.42	66.5	2.88	69.0	3.10	70.0	3.35	72.4	3.84	74.1	3.96
	20	48.2	2.03	57.2	2.46	66.5	2.92	69.0	3.15	70.0	3.39	72.4	3.89	74.1	4.02
	25	48.2	2.06	57.2	2.49	66.5	2.95	69.0	3.19	70.0	3.43	72.4	3.93	74.1	4.07
	30	48.2	2.09	57.2	2.53	66.5	2.99	69.0	3.23	70.0	3.47	72.4	3.98	74.1	4.12
	35	48.2	2.11	57.2	2.56	66.5	3.02	69.0	3.27	70.0	3.51	72.4	4.03	74.1	4.17
	40	48.2	2.14	57.2	2.59	66.5	3.06	69.0	3.31	70.0	3.55	72.4	4.07	74.1	4.22
	45	48.2	2.16	57.2	2.61	66.5	3.09	69.0	3.34	70.0	3.59	72.4	4.12	74.1	4.26
	50	48.2	2.18	57.2	2.64	66.5	3.12	69.0	3.37	70.0	3.63	72.4	4.16	74.1	4.30
	55	48.2	2.22	57.2	2.69	66.5	3.18	68.0	3.45	69.0	3.70	71.4	4.23	73.1	4.33
	60	48.2	2.29	57.2	2.78	65.6	3.31	66.5	3.58	67.3	3.84	69.7	4.36	71.4	4.38
	65	48.2	2.34	57.2	2.84	64.6	3.37	65.6	3.65	66.3	3.92	68.7	4.51	70.4	4.54
	70	48.2	2.25	57.2	2.73	63.4	3.36	64.1	3.70	65.1	4.06	67.5	4.51	69.2	4.56
	75	48.2	2.31	57.2	2.91	62.4	3.60	63.1	3.97	64.1	4.35	66.5	4.72	68.2	4.76
	80	48.2	2.62	57.2	3.32	60.7	4.12	61.4	4.54	62.4	4.99	64.7	5.13	66.5	5.17
	85	48.2	2.79	57.2	3.54	59.7	4.40	60.7	4.85	61.4	5.30	63.8	5.34	65.5	5.39
90	48.2	3.16	56.3	4.03	58.0	4.99	58.7	5.52	59.7	5.71	62.0	5.76	63.8	5.81	
95	48.7	3.35	55.9	4.29	57.6	5.33	58.6	5.89	59.3	5.92	61.7	5.97	63.4	6.03	
100	48.7	3.63	54.9	4.63	56.6	5.78	57.6	6.20	58.4	6.24	60.9	6.29	62.7	6.35	
105	48.7	4.09	53.4	5.24	55.1	6.52	56.0	6.67	56.8	6.70	58.8	6.76	59.7	6.83	
110	48.7	4.59	51.2	5.91	53.3	7.11	53.5	7.15	54.3	7.17	55.4	7.24	55.7	7.31	
115	48.5	5.31	49.3	6.80	49.3	7.50	49.3	7.50	49.3	7.50	50.1	7.51	50.3	7.52	
118	42.1	4.50	42.9	5.76	43.0	6.30	43.0	6.36	43.0	6.36	43.6	6.37	43.4	6.38	
122	33.7	3.42	34.4	4.38	34.2	4.80	34.3	4.81	34.4	4.82	35.0	4.83	34.9	4.85	
120%	-9.9	43.9	1.55	52.3	1.88	60.8	2.23	65.2	2.40	68.1	2.59	71.2	2.97	72.7	3.07
	-5	43.9	1.64	52.3	1.98	60.8	2.35	65.2	2.53	68.1	2.73	71.2	3.13	72.7	3.24
	0	43.9	1.70	52.3	2.06	60.8	2.44	65.2	2.63	68.1	2.84	71.2	3.26	72.7	3.37
	5	43.9	1.76	52.3	2.14	60.8	2.53	65.2	2.73	68.1	2.95	71.2	3.38	72.7	3.49
	10	43.9	1.82	52.3	2.20	60.8	2.61	65.2	2.81	68.1	3.03	71.2	3.47	72.7	3.59
	14	43.9	1.88	52.3	2.28	60.8	2.70	65.2	2.91	68.1	3.14	71.2	3.60	72.7	3.72
	20	43.9	1.91	52.3	2.31	60.8	2.74	65.2	2.96	68.1	3.18	71.2	3.65	72.7	3.77
	25	43.9	1.94	52.3	2.34	60.8	2.77	65.2	2.99	68.1	3.22	71.2	3.69	72.7	3.82
	30	43.9	1.96	52.3	2.37	60.8	2.80	65.2	3.03	68.1	3.26	71.2	3.74	72.7	3.86
	35	43.9	1.99	52.3	2.40	60.8	2.84	65.2	3.07	68.1	3.30	71.2	3.78	72.7	3.91
	40	43.9	2.01	52.3	2.43	60.8	2.87	65.2	3.11	68.1	3.34	71.2	3.83	72.7	3.96
	45	43.9	2.03	52.3	2.46	60.8	2.91	65.2	3.14	68.1	3.38	71.2	3.87	72.7	4.01
	50	43.9	2.05	52.3	2.49	60.8	2.94	65.2	3.18	68.1	3.42	71.2	3.92	72.7	4.05
	55	43.9	2.09	52.3	2.53	60.8	3.00	65.2	3.25	67.4	3.48	70.2	3.98	71.9	4.08
	60	43.9	2.16	52.3	2.62	60.8	3.12	64.7	3.37	65.4	3.62	68.5	4.11	69.9	4.18
	65	43.9	2.20	52.3	2.68	60.8	3.18	63.7	3.44	64.7	3.69	67.5	4.24	69.2	4.28
	70	43.9	2.16	52.3	2.62	60.8	3.23	62.5	3.55	63.2	3.90	66.2	4.33	67.7	4.37
	75	43.9	2.21	52.3	2.80	60.8	3.46	61.5	3.81	62.5	4.18	65.2	4.53	67.0	4.57
	80	43.9	2.52	52.3	3.19	59.1	3.95	59.9	4.36	60.6	4.79	63.5	4.92	65.0	4.97
	85	43.9	2.68	52.3	3.40	58.2	4.22	58.9	4.65	59.9	5.09	62.5	5.13	64.3	5.17
90	43.9	3.03	52.3	3.87	56.5	4.79	57.2	5.30	57.9	5.49	60.8	5.53	62.3	5.58	
95	44.3	3.22	52.9	4.11	56.1	5.12	56.8	5.66	57.8	5.68	60.4	5.73	62.2	5.79	
100	44.3	3.48	52.9	4.45	55.1	5.55	56.1	5.95	56.8	5.99	59.7	6.04	61.2	6.10	
105	44.3	3.92	52.1	5.04	53.6	6.26	54.5	6.40	55.2	6.44	58.0	6.49	58.9	6.55	
110	44.3	4.41	50.7	5.67	52.4	6.83	52.5	6.86	53.3	6.88	55.0	6.95	55.2	7.02	
115	43.1	5.10	48.9	6.52	48.9	7.20	48.9	7.20	48.9	7.20	50.1	7.21	50.3	7.22	
118	38.5	4.50	42.5	5.53	42.5	6.05	42.5	6.11	42.5	6.11	43.6	6.12	43.4	6.13	
122	30.7	3.42	34.1	4.20	33.9	4.61	34.0	4.62	34.1	4.62	35.0	4.64	34.9	4.66	

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 80°F dry bulb (DB) and 67°F wet bulb (WB), and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).

COOLING CAPACITY DATA



ARUN053GSS4

53,000 Btu/h 208-230V Heat Pump Units

MULTI V S Outdoor Unit Engineering Manual

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
110%	-9.9	40.6	1.43	48.5	1.72	56.3	2.04	60.2	2.21	64.2	2.37	70.7	2.71	72.2	2.81
	-5	40.6	1.51	48.5	1.82	56.3	2.15	60.2	2.34	64.2	2.50	70.7	2.86	72.2	2.96
	0	40.6	1.57	48.5	1.89	56.3	2.24	60.2	2.43	64.2	2.60	70.7	2.97	72.2	3.08
	5	40.6	1.62	48.5	1.96	56.3	2.32	60.2	2.52	64.2	2.70	70.7	3.08	72.2	3.19
	10	40.6	1.67	48.5	2.02	56.3	2.39	60.2	2.59	64.2	2.78	70.7	3.17	72.2	3.29
	14	40.6	1.73	48.5	2.09	56.3	2.48	60.2	2.68	64.2	2.88	70.7	3.28	72.2	3.40
	20	40.6	1.76	48.5	2.12	56.3	2.51	60.2	2.72	64.2	2.92	70.7	3.34	72.2	3.46
	25	40.6	1.78	48.5	2.15	56.3	2.54	60.2	2.75	64.2	2.96	70.7	3.38	72.2	3.50
	30	40.6	1.80	48.5	2.18	56.3	2.58	60.2	2.78	64.2	2.99	70.7	3.43	72.2	3.54
	35	40.6	1.83	48.5	2.21	56.3	2.61	60.2	2.82	64.2	3.04	70.7	3.48	72.2	3.60
	40	40.6	1.85	48.5	2.24	56.3	2.65	60.2	2.86	64.2	3.08	70.7	3.53	72.2	3.65
	45	40.6	1.88	48.5	2.27	56.3	2.69	60.2	2.91	64.2	3.13	70.7	3.59	72.2	3.71
	50	40.6	1.91	48.5	2.31	56.3	2.74	60.2	2.96	64.2	3.18	70.7	3.65	72.2	3.77
	55	40.6	1.94	48.5	2.36	56.3	2.79	60.2	3.02	64.2	3.24	69.7	3.71	71.2	3.80
	60	40.6	2.01	48.5	2.44	56.3	2.91	60.2	3.14	64.2	3.37	67.9	3.83	69.4	3.86
	65	40.6	2.05	48.5	2.49	56.3	2.96	60.2	3.20	64.2	3.43	66.9	3.95	68.4	3.98
	70	40.6	2.07	48.5	2.52	56.3	3.10	60.2	3.41	62.9	3.74	65.7	4.15	67.2	4.19
	75	40.6	2.12	48.5	2.68	56.3	3.31	60.2	3.65	61.9	4.01	64.7	4.35	66.2	4.38
	80	40.2	2.41	48.0	3.05	55.7	3.79	58.9	4.18	59.6	4.60	62.3	4.72	63.8	4.76
	85	40.2	2.57	48.0	3.26	55.7	4.05	57.9	4.46	58.7	4.88	61.3	4.92	62.8	4.96
90	40.2	2.91	48.0	3.71	55.5	4.60	56.2	5.08	57.0	5.26	59.6	5.30	61.1	5.35	
95	40.2	3.09	48.0	3.94	54.5	4.91	55.3	5.43	56.0	5.45	58.6	5.50	60.1	5.55	
100	40.2	3.34	48.0	4.27	53.8	5.32	54.5	5.71	55.3	5.74	57.8	5.79	59.3	5.85	
105	40.2	3.76	48.0	4.83	52.1	6.00	52.8	6.14	53.6	6.17	56.1	6.23	57.6	6.29	
110	40.2	4.23	48.0	5.44	50.5	6.54	50.7	6.58	51.4	6.60	53.0	6.66	53.2	6.73	
115	40.2	4.89	48.0	6.26	48.4	6.90	48.4	6.90	48.6	6.90	49.6	6.91	49.8	6.92	
118	38.9	4.46	41.7	5.30	42.1	5.80	42.1	5.85	42.3	5.85	43.1	5.86	43.0	5.88	
122	31.1	3.38	33.5	4.03	33.6	4.42	33.6	4.43	33.9	4.43	34.6	4.45	34.6	4.46	
100%	-9.9	35.7	1.26	42.6	1.52	49.5	1.80	53.0	1.96	58.2	2.12	65.3	2.44	69.0	2.55
	-5	35.7	1.33	42.6	1.60	49.5	1.90	53.0	2.07	58.2	2.24	65.3	2.58	69.0	2.69
	0	35.7	1.38	42.6	1.66	49.5	1.97	53.0	2.15	58.2	2.33	65.3	2.68	69.0	2.79
	5	35.7	1.43	42.6	1.72	49.5	2.04	53.0	2.23	58.2	2.41	65.3	2.78	69.0	2.90
	10	35.7	1.47	42.6	1.77	49.5	2.10	53.0	2.29	58.2	2.48	65.3	2.86	69.0	2.98
	14	35.7	1.52	42.6	1.84	49.5	2.18	53.0	2.37	58.2	2.57	65.3	2.96	69.0	3.09
	20	35.7	1.57	42.6	1.90	49.5	2.25	53.0	2.44	58.2	2.65	65.3	3.05	69.0	3.18
	25	35.7	1.61	42.6	1.95	49.5	2.31	53.0	2.50	58.2	2.72	65.3	3.12	69.0	3.25
	30	35.7	1.65	42.6	2.00	49.5	2.36	53.0	2.55	58.2	2.79	65.3	3.19	69.0	3.32
	35	35.7	1.68	42.6	2.03	49.5	2.40	53.0	2.60	58.2	2.83	65.3	3.25	69.0	3.38
	40	35.7	1.70	42.6	2.06	49.5	2.44	53.0	2.64	58.2	2.88	65.3	3.30	69.0	3.43
	45	35.7	1.74	42.6	2.11	49.5	2.49	53.0	2.69	58.2	2.93	65.3	3.37	69.0	3.50
	50	35.7	1.78	42.6	2.15	49.5	2.54	53.0	2.75	58.2	3.00	65.3	3.43	69.0	3.57
	55	35.7	1.80	42.6	2.19	49.5	2.59	53.0	2.81	58.2	3.06	65.3	3.49	68.2	3.62
	60	35.7	1.86	42.6	2.27	49.5	2.70	53.0	2.91	58.2	3.18	65.1	3.60	66.3	3.69
	65	35.7	1.90	42.6	2.31	49.5	2.75	53.0	2.97	58.2	3.24	64.1	3.72	65.6	3.80
	70	35.7	1.96	42.6	2.38	49.5	2.93	53.0	3.23	58.2	3.59	62.9	3.99	64.1	4.06
	75	35.7	2.01	42.6	2.54	49.5	3.14	53.0	3.46	58.2	3.85	61.9	4.18	63.4	4.23
	80	35.7	2.29	42.6	2.89	49.5	3.59	53.0	3.96	58.2	4.42	60.2	4.54	61.4	4.60
	85	35.7	2.43	42.6	3.09	49.5	3.84	53.0	4.23	58.0	4.69	59.2	4.73	60.7	4.79
90	35.7	2.76	42.6	3.51	49.5	4.36	53.0	4.82	56.1	5.06	57.5	5.10	58.7	5.17	
95	35.7	2.92	42.6	3.74	49.5	4.65	53.0	5.14	55.3	5.24	56.5	5.29	58.0	5.36	
100	35.7	3.16	42.6	4.03	49.5	5.03	52.1	5.40	54.4	5.51	55.8	5.56	57.1	5.64	
105	35.7	3.55	42.6	4.54	49.2	5.65	50.6	5.78	52.7	5.90	54.1	5.95	55.4	6.03	
110	35.7	3.96	42.6	5.10	48.6	6.14	49.7	6.17	50.7	6.28	51.5	6.34	52.5	6.43	
115	35.7	4.55	42.6	5.83	46.3	6.43	47.7	6.43	48.9	6.52	49.3	6.53	49.6	6.58	
118	35.7	4.59	37.4	5.47	40.3	5.40	41.5	5.45	42.6	5.53	43.0	5.54	42.8	5.58	
122	30.6	4.16	30.0	4.16	32.1	4.11	33.2	4.12	34.1	4.19	34.5	4.20	34.4	4.24	

TC = Total Capacity (MBh). PI = Power Input (kW) (includes compressor and outdoor fan).
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 The System Combination Ratio must be between 50-130%.

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 0 ft. level difference between outdoor and indoor units.
 Nominal cooling capacity rating obtained with air entering the indoor unit at 80°F dry bulb (DB) and 67°F wet bulb (WB), and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).



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
90%	-9.9	32.2	1.12	38.3	1.34	44.7	1.59	47.8	1.71	50.9	1.82	57.0	2.10	63.2	2.31
	-5	32.2	1.18	38.3	1.42	44.7	1.67	47.8	1.80	50.9	1.92	57.0	2.22	63.2	2.43
	0	32.2	1.23	38.3	1.47	44.7	1.74	47.8	1.87	50.9	2.00	57.0	2.30	63.2	2.53
	5	32.2	1.28	38.3	1.53	44.7	1.80	47.8	1.94	50.9	2.07	57.0	2.39	63.2	2.62
	10	32.2	1.31	38.3	1.57	44.7	1.86	47.8	2.00	50.9	2.13	57.0	2.46	63.2	2.70
	14	32.2	1.36	38.3	1.63	44.7	1.92	47.8	2.07	50.9	2.21	57.0	2.55	63.2	2.80
	20	32.2	1.41	38.3	1.69	44.7	2.00	47.8	2.15	50.9	2.30	57.0	2.64	63.2	2.90
	25	32.2	1.45	38.3	1.74	44.7	2.06	47.8	2.22	50.9	2.38	57.0	2.71	63.2	2.99
	30	32.2	1.49	38.3	1.79	44.7	2.12	47.8	2.28	50.9	2.46	57.0	2.79	63.2	3.08
	35	32.2	1.54	38.3	1.85	44.7	2.18	47.8	2.35	50.9	2.53	57.0	2.87	63.2	3.18
	40	32.2	1.58	38.3	1.90	44.7	2.25	47.8	2.42	50.9	2.61	57.0	2.96	63.2	3.27
	45	32.2	1.62	38.3	1.95	44.7	2.30	47.8	2.48	50.9	2.67	57.0	3.03	63.2	3.35
	50	32.2	1.65	38.3	1.99	44.7	2.35	47.8	2.53	50.9	2.73	57.0	3.10	63.2	3.42
	55	32.2	1.67	38.3	2.02	44.7	2.39	47.8	2.58	50.9	2.78	57.0	3.16	63.2	3.45
	60	32.2	1.74	38.3	2.10	44.7	2.48	47.8	2.69	50.9	2.89	57.0	3.28	62.6	3.49
	65	32.2	1.77	38.3	2.14	44.7	2.53	47.8	2.74	50.9	2.94	57.0	3.34	62.2	3.66
	70	32.2	1.82	38.3	2.21	44.7	2.62	47.8	2.89	50.9	3.16	57.0	3.73	61.0	3.94
	75	32.2	1.85	38.3	2.31	44.7	2.81	47.8	3.09	50.9	3.39	57.0	3.89	60.1	4.11
	80	32.2	2.07	38.3	2.61	44.7	3.21	47.8	3.53	50.9	3.87	57.0	4.30	58.4	4.47
	85	32.2	2.21	38.3	2.79	44.7	3.43	47.8	3.77	50.9	4.14	56.3	4.52	57.5	4.66
90	32.2	2.49	38.3	3.16	44.7	3.89	47.8	4.29	50.9	4.71	54.7	4.95	55.8	5.03	
95	32.2	2.65	38.3	3.35	44.7	4.15	47.8	4.57	50.9	5.02	53.7	5.14	54.9	5.21	
100	32.2	2.74	38.3	3.49	44.7	4.32	47.8	4.76	50.9	5.13	53.0	5.36	53.9	5.42	
105	32.2	3.18	38.3	4.05	44.7	4.88	47.8	5.21	50.3	5.50	51.4	5.75	52.0	5.82	
110	32.2	3.65	38.3	4.67	44.7	5.36	47.8	5.62	48.3	5.97	48.9	6.17	49.3	6.24	
115	32.2	3.95	38.3	5.06	41.9	5.64	45.3	5.88	46.0	6.16	46.4	6.29	46.6	6.38	
118	32.2	4.20	37.4	5.47	36.5	4.74	39.5	4.99	40.0	5.23	40.4	5.34	40.2	5.41	
122	30.6	4.16	30.0	4.16	29.1	3.61	31.5	3.77	32.1	3.96	32.4	4.05	32.4	4.11	
80%	-9.9	28.6	0.97	34.1	1.17	39.8	1.36	42.4	1.48	45.2	1.59	50.6	1.82	56.1	2.02
	-5	28.6	1.02	34.1	1.23	39.8	1.43	42.4	1.56	45.2	1.68	50.6	1.92	56.1	2.13
	0	28.6	1.07	34.1	1.28	39.8	1.49	42.4	1.62	45.2	1.75	50.6	1.99	56.1	2.22
	5	28.6	1.10	34.1	1.33	39.8	1.54	42.4	1.68	45.2	1.81	50.6	2.07	56.1	2.30
	10	28.6	1.14	34.1	1.37	39.8	1.59	42.4	1.73	45.2	1.86	50.6	2.13	56.1	2.37
	14	28.6	1.18	34.1	1.42	39.8	1.65	42.4	1.79	45.2	1.93	50.6	2.20	56.1	2.45
	20	28.6	1.22	34.1	1.47	39.8	1.71	42.4	1.86	45.2	2.00	50.6	2.28	56.1	2.55
	25	28.6	1.26	34.1	1.51	39.8	1.77	42.4	1.91	45.2	2.05	50.6	2.35	56.1	2.63
	30	28.6	1.30	34.1	1.55	39.8	1.82	42.4	1.97	45.2	2.11	50.6	2.42	56.1	2.71
	35	28.6	1.33	34.1	1.60	39.8	1.88	42.4	2.02	45.2	2.16	50.6	2.48	56.1	2.78
	40	28.6	1.37	34.1	1.64	39.8	1.92	42.4	2.08	45.2	2.22	50.6	2.55	56.1	2.85
	45	28.6	1.39	34.1	1.66	39.8	1.95	42.4	2.11	45.2	2.25	50.6	2.59	56.1	2.89
	50	28.6	1.41	34.1	1.68	39.8	1.98	42.4	2.13	45.2	2.28	50.6	2.62	56.1	2.93
	55	28.6	1.43	34.1	1.71	39.8	2.01	42.4	2.17	45.2	2.33	50.6	2.67	56.1	2.98
	60	28.6	1.48	34.1	1.77	39.8	2.08	42.4	2.25	45.2	2.42	50.6	2.76	56.1	3.11
	65	28.6	1.50	34.1	1.81	39.8	2.13	42.4	2.29	45.2	2.47	50.6	2.81	56.1	3.18
	70	28.6	1.54	34.1	1.86	39.8	2.19	42.4	2.36	45.2	2.57	50.6	3.03	56.1	3.51
	75	28.6	1.57	34.1	1.89	39.8	2.30	42.4	2.52	45.2	2.74	50.6	3.23	56.1	3.70
	80	28.6	1.72	34.1	2.15	39.8	2.62	42.4	2.86	45.2	3.13	50.6	3.71	56.1	4.14
	85	28.6	1.83	34.1	2.28	39.8	2.79	42.4	3.06	45.2	3.35	50.6	3.95	56.1	4.24
90	28.6	2.06	34.1	2.59	39.8	3.16	42.4	3.47	45.2	3.81	50.6	4.35	55.2	4.50	
95	28.6	2.19	34.1	2.74	39.8	3.37	42.4	3.68	45.2	4.05	50.6	4.50	54.0	4.62	
100	28.6	2.36	34.1	2.96	39.8	3.63	42.4	3.95	45.2	4.21	50.6	4.68	52.8	4.77	
105	28.6	2.69	34.1	3.38	39.8	4.05	42.4	4.24	45.2	4.51	50.0	4.87	51.3	5.01	
110	28.6	3.06	34.1	3.86	39.8	4.29	42.4	4.52	45.2	4.86	48.3	5.05	48.5	5.26	
115	28.6	3.27	34.1	4.12	39.8	4.43	42.4	4.75	42.4	4.98	42.6	5.16	42.6	5.47	
118	28.6	3.47	34.1	4.38	36.5	4.74	37.2	4.51	36.9	4.22	37.1	4.38	36.8	4.64	
122	28.6	3.75	30.1	4.13	29.1	3.61	29.7	3.41	29.5	3.20	29.8	3.32	29.6	3.53	

Performance Data

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 80°F dry bulb (DB) and 67°F wet bulb (WB), and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).

COOLING CAPACITY DATA



ARUN053GSS4

53,000 Btu/h 208-230V Heat Pump Units

MULTI V S Outdoor Unit Engineering Manual

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
70%	-9.9	25.1	0.86	29.8	1.02	34.8	1.20	37.1	1.28	39.5	1.37	44.2	1.57	49.2	1.75
	-5	25.1	0.90	29.8	1.07	34.8	1.26	37.1	1.35	39.5	1.44	44.2	1.65	49.2	1.85
	0	25.1	0.94	29.8	1.12	34.8	1.32	37.1	1.41	39.5	1.50	44.2	1.72	49.2	1.92
	5	25.1	0.97	29.8	1.16	34.8	1.36	37.1	1.46	39.5	1.56	44.2	1.78	49.2	1.99
	10	25.1	1.00	29.8	1.19	34.8	1.40	37.1	1.50	39.5	1.60	44.2	1.83	49.2	2.05
	14	25.1	1.04	29.8	1.24	34.8	1.45	37.1	1.56	39.5	1.66	44.2	1.90	49.2	2.13
	20	25.1	1.08	29.8	1.28	34.8	1.50	37.1	1.61	39.5	1.72	44.2	1.96	49.2	2.20
	25	25.1	1.11	29.8	1.31	34.8	1.54	37.1	1.65	39.5	1.76	44.2	2.01	49.2	2.26
	30	25.1	1.13	29.8	1.34	34.8	1.57	37.1	1.69	39.5	1.81	44.2	2.06	49.2	2.32
	35	25.1	1.17	29.8	1.38	34.8	1.62	37.1	1.74	39.5	1.86	44.2	2.11	49.2	2.38
	40	25.1	1.20	29.8	1.42	34.8	1.66	37.1	1.78	39.5	1.91	44.2	2.17	49.2	2.44
	45	25.1	1.21	29.8	1.44	34.8	1.69	37.1	1.81	39.5	1.94	44.2	2.21	49.2	2.48
	50	25.1	1.24	29.8	1.46	34.8	1.71	37.1	1.84	39.5	1.97	44.2	2.24	49.2	2.52
	55	25.1	1.26	29.8	1.49	34.8	1.74	37.1	1.87	39.5	2.01	44.2	2.28	49.2	2.57
	60	25.1	1.29	29.8	1.54	34.8	1.81	37.1	1.94	39.5	2.08	44.2	2.37	49.2	2.67
	65	25.1	1.31	29.8	1.57	34.8	1.83	37.1	1.98	39.5	2.12	44.2	2.41	49.2	2.71
	70	25.1	1.35	29.8	1.61	34.8	1.89	37.1	2.03	39.5	2.18	44.2	2.50	49.2	2.88
	75	25.1	1.37	29.8	1.64	34.8	1.93	37.1	2.11	39.5	2.28	44.2	2.67	49.2	3.05
	80	25.1	1.48	29.8	1.81	34.8	2.19	37.1	2.39	39.5	2.59	44.2	2.95	49.2	3.39
	85	25.1	1.57	29.8	1.93	34.8	2.33	37.1	2.55	39.5	2.79	44.2	3.15	49.2	3.53
90	25.1	1.76	29.8	2.18	34.8	2.64	37.1	2.88	39.5	3.16	44.2	3.51	49.2	3.83	
95	25.1	1.86	29.8	2.31	34.8	2.81	37.1	3.08	39.5	3.35	44.2	3.69	49.2	3.95	
100	25.1	2.01	29.8	2.50	34.8	3.03	37.1	3.32	39.5	3.45	44.2	3.86	49.2	4.06	
105	25.1	2.28	29.8	2.85	34.8	3.35	37.1	3.54	39.5	3.75	44.2	4.07	49.2	4.30	
110	25.1	2.57	29.8	3.23	34.8	3.54	37.1	3.76	39.5	4.06	44.2	4.23	47.8	4.62	
115	25.1	2.76	29.8	3.44	34.8	3.66	37.1	3.97	39.5	4.18	44.2	4.36	45.1	4.92	
118	25.1	2.93	29.8	3.66	34.8	3.89	37.1	4.21	36.0	4.18	37.1	3.70	36.8	4.17	
122	25.1	3.16	29.8	3.96	31.0	3.72	29.7	3.46	28.8	3.17	29.8	2.81	29.6	3.17	
60%	-9.9	21.5	0.74	25.6	0.86	29.8	1.01	31.7	1.08	33.8	1.16	38.1	1.32	42.1	1.47
	-5	21.5	0.78	25.6	0.91	29.8	1.07	31.7	1.14	33.8	1.23	38.1	1.39	42.1	1.56
	0	21.5	0.82	25.6	0.95	29.8	1.11	31.7	1.19	33.8	1.28	38.1	1.45	42.1	1.62
	5	21.5	0.85	25.6	0.98	29.8	1.15	31.7	1.23	33.8	1.32	38.1	1.50	42.1	1.68
	10	21.5	0.87	25.6	1.01	29.8	1.18	31.7	1.27	33.8	1.36	38.1	1.54	42.1	1.73
	14	21.5	0.90	25.6	1.05	29.8	1.23	31.7	1.31	33.8	1.41	38.1	1.60	42.1	1.79
	20	21.5	0.93	25.6	1.08	29.8	1.27	31.7	1.36	33.8	1.46	38.1	1.65	42.1	1.85
	25	21.5	0.95	25.6	1.12	29.8	1.30	31.7	1.40	33.8	1.50	38.1	1.70	42.1	1.90
	30	21.5	0.97	25.6	1.15	29.8	1.33	31.7	1.43	33.8	1.53	38.1	1.74	42.1	1.95
	35	21.5	1.00	25.6	1.18	29.8	1.37	31.7	1.47	33.8	1.57	38.1	1.78	42.1	2.00
	40	21.5	1.02	25.6	1.21	29.8	1.40	31.7	1.51	33.8	1.61	38.1	1.83	42.1	2.06
	45	21.5	1.03	25.6	1.22	29.8	1.41	31.7	1.52	33.8	1.63	38.1	1.85	42.1	2.07
	50	21.5	1.04	25.6	1.23	29.8	1.43	31.7	1.53	33.8	1.64	38.1	1.86	42.1	2.09
	55	21.5	1.06	25.6	1.25	29.8	1.46	31.7	1.56	33.8	1.67	38.1	1.90	42.1	2.13
	60	21.5	1.09	25.6	1.29	29.8	1.51	31.7	1.62	33.8	1.73	38.1	1.96	42.1	2.21
	65	21.5	1.11	25.6	1.31	29.8	1.53	31.7	1.65	33.8	1.76	38.1	2.01	42.1	2.26
	70	21.5	1.14	25.6	1.35	29.8	1.58	31.7	1.69	33.8	1.81	38.1	2.06	42.1	2.34
	75	21.5	1.16	25.6	1.37	29.8	1.61	31.7	1.73	33.8	1.87	38.1	2.18	42.1	2.49
	80	21.5	1.23	25.6	1.50	29.8	1.80	31.7	1.96	33.8	2.13	38.1	2.45	42.1	2.82
	85	21.5	1.31	25.6	1.59	29.8	1.91	31.7	2.09	33.8	2.28	38.1	2.58	42.1	2.91
90	21.5	1.46	25.6	1.80	29.8	2.16	31.7	2.36	33.8	2.56	38.1	2.88	42.1	3.17	
95	21.5	1.55	25.6	1.91	29.8	2.30	31.7	2.52	33.8	2.71	38.1	3.01	42.1	3.34	
100	21.5	1.66	25.6	2.05	29.8	2.48	31.7	2.71	33.8	2.83	38.1	3.19	42.1	3.48	
105	21.5	1.89	25.6	2.33	29.8	2.73	31.7	2.89	33.8	3.08	38.1	3.39	42.1	3.80	
110	21.5	2.13	25.6	2.65	29.8	2.95	31.7	3.07	33.8	3.33	38.1	3.63	42.1	4.14	
115	21.5	2.28	25.6	2.83	29.8	3.07	31.7	3.25	33.8	3.44	38.1	3.84	42.1	4.43	
118	21.5	2.41	25.6	3.00	29.8	3.26	31.7	3.45	33.8	3.67	37.1	3.70	36.8	4.17	
122	21.5	2.60	25.6	3.24	29.8	3.53	29.6	3.50	28.7	3.24	29.8	2.81	29.6	3.17	

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 80°F dry bulb (DB) and 67°F wet bulb (WB), and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).



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
50%	-9.9	17.9	0.64	21.3	0.75	24.8	0.84	26.5	0.91	28.2	0.98	31.7	1.08	35.0	1.20
	-5	17.9	0.67	21.3	0.79	24.8	0.89	26.5	0.96	28.2	1.03	31.7	1.14	35.0	1.27
	0	17.9	0.70	21.3	0.82	24.8	0.92	26.5	0.99	28.2	1.07	31.7	1.19	35.0	1.32
	5	17.9	0.73	21.3	0.85	24.8	0.96	26.5	1.03	28.2	1.11	31.7	1.23	35.0	1.37
	10	17.9	0.75	21.3	0.88	24.8	0.98	26.5	1.06	28.2	1.14	31.7	1.27	35.0	1.40
	14	17.9	0.77	21.3	0.91	24.8	1.02	26.5	1.10	28.2	1.18	31.7	1.31	35.0	1.46
	20	17.9	0.80	21.3	0.94	24.8	1.06	26.5	1.14	28.2	1.22	31.7	1.36	35.0	1.51
	25	17.9	0.83	21.3	0.96	24.8	1.10	26.5	1.17	28.2	1.25	31.7	1.40	35.0	1.56
	30	17.9	0.85	21.3	0.99	24.8	1.13	26.5	1.20	28.2	1.29	31.7	1.44	35.0	1.60
	35	17.9	0.87	21.3	1.01	24.8	1.16	26.5	1.24	28.2	1.32	31.7	1.48	35.0	1.64
	40	17.9	0.90	21.3	1.04	24.8	1.19	26.5	1.27	28.2	1.35	31.7	1.52	35.0	1.69
	45	17.9	0.91	21.3	1.05	24.8	1.21	26.5	1.29	28.2	1.37	31.7	1.54	35.0	1.71
	50	17.9	0.92	21.3	1.07	24.8	1.23	26.5	1.30	28.2	1.39	31.7	1.56	35.0	1.74
	55	17.9	0.94	21.3	1.09	24.8	1.25	26.5	1.32	28.2	1.41	31.7	1.59	35.0	1.77
	60	17.9	0.96	21.3	1.12	24.8	1.29	26.5	1.37	28.2	1.46	31.7	1.64	35.0	1.83
	65	17.9	0.97	21.3	1.14	24.8	1.30	26.5	1.39	28.2	1.48	31.7	1.67	35.0	1.86
	70	17.9	1.00	21.3	1.16	24.8	1.33	26.5	1.43	28.2	1.52	31.7	1.72	35.0	1.92
	75	17.9	1.01	21.3	1.18	24.8	1.36	26.5	1.45	28.2	1.55	31.7	1.75	35.0	1.96
	80	17.9	1.04	21.3	1.25	24.8	1.46	26.5	1.58	28.2	1.70	31.7	1.95	35.0	2.23
	85	17.9	1.11	21.3	1.31	24.8	1.55	26.5	1.68	28.2	1.80	31.7	2.08	35.0	2.37
	90	17.9	1.24	21.3	1.47	24.8	1.75	26.5	1.88	28.2	2.03	31.7	2.34	35.0	2.69
95	17.9	1.30	21.3	1.56	24.8	1.84	26.5	2.00	28.2	2.16	31.7	2.49	35.0	2.85	
100	17.9	1.37	21.3	1.65	24.8	1.95	26.5	2.12	28.2	2.29	31.7	2.65	35.0	3.03	
105	17.9	1.50	21.3	1.82	24.8	2.16	26.5	2.34	28.2	2.53	31.7	2.93	35.0	3.37	
110	17.9	1.66	21.3	2.01	24.8	2.39	26.5	2.60	28.2	2.82	31.7	3.28	35.0	3.77	
115	17.9	1.78	21.3	2.16	24.8	2.57	26.5	2.80	28.2	3.03	31.7	3.53	35.0	4.06	
118	17.9	1.92	21.3	2.34	24.8	2.79	26.5	3.04	28.2	3.30	31.7	3.70	35.0	4.17	
122	17.9	2.12	21.3	2.59	24.8	3.09	26.5	3.38	28.2	3.24	29.8	2.81	29.6	3.17	

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



ARUN060GSS4

60,000 Btu/h 208-230V Heat Pump Units

MULTI V S Outdoor Unit Engineering Manual

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
130%	-9.9	54.6	1.83	64.8	2.22	75.3	2.63	78.1	2.84	79.2	3.06	82.0	3.51	83.9	3.62
	-5	54.6	1.93	64.8	2.34	75.3	2.77	78.1	2.99	79.2	3.23	82.0	3.70	83.9	3.82
	0	54.6	2.00	64.8	2.43	75.3	2.89	78.1	3.11	79.2	3.36	82.0	3.85	83.9	3.98
	5	54.6	2.08	64.8	2.52	75.3	2.99	78.1	3.23	79.2	3.48	82.0	3.99	83.9	4.12
	10	54.6	2.14	64.8	2.59	75.3	3.08	78.1	3.32	79.2	3.58	82.0	4.11	83.9	4.24
	14	54.6	2.21	64.8	2.69	75.3	3.19	78.1	3.44	79.2	3.71	82.0	4.26	83.9	4.40
	20	54.6	2.25	64.8	2.73	75.3	3.24	78.1	3.49	79.2	3.76	82.0	4.31	83.9	4.46
	25	54.6	2.28	64.8	2.77	75.3	3.27	78.1	3.54	79.2	3.81	82.0	4.36	83.9	4.51
	30	54.6	2.31	64.8	2.80	75.3	3.31	78.1	3.58	79.2	3.85	82.0	4.41	83.9	4.57
	35	54.6	2.34	64.8	2.84	75.3	3.35	78.1	3.62	79.2	3.90	82.0	4.46	83.9	4.62
	40	54.6	2.37	64.8	2.87	75.3	3.39	78.1	3.67	79.2	3.94	82.0	4.52	83.9	4.68
	45	54.6	2.39	64.8	2.90	75.3	3.43	78.1	3.70	79.2	3.98	82.0	4.57	83.9	4.72
	50	54.6	2.42	64.8	2.93	75.3	3.46	78.1	3.74	79.2	4.02	82.0	4.61	83.9	4.77
	55	54.6	2.46	64.8	2.98	75.3	3.53	77.0	3.82	78.1	4.10	80.8	4.69	82.8	4.80
	60	54.6	2.54	64.8	3.09	74.2	3.67	75.3	3.97	76.2	4.26	78.9	4.84	80.8	4.86
	65	54.6	2.59	64.8	3.15	73.1	3.74	74.2	4.05	75.1	4.34	77.8	5.00	79.7	5.04
	70	54.6	2.49	64.8	3.03	71.7	3.73	72.6	4.10	73.7	4.50	76.4	5.00	78.3	5.05
	75	54.6	2.56	64.8	3.23	70.6	3.99	71.5	4.40	72.6	4.83	75.2	5.24	77.2	5.28
	80	54.6	2.91	64.8	3.68	68.7	4.56	69.5	5.04	70.6	5.54	73.3	5.69	75.2	5.74
	85	54.6	3.09	64.8	3.93	67.6	4.88	68.7	5.38	69.5	5.87	72.2	5.92	74.1	5.97
	90	54.6	3.50	63.7	4.47	65.6	5.54	66.5	6.12	67.6	6.34	70.2	6.39	72.2	6.45
95	55.1	3.72	63.3	4.75	65.2	5.91	66.3	6.54	67.2	6.56	69.8	6.62	71.8	6.69	
100	55.1	4.02	62.1	5.14	64.1	6.41	65.2	6.88	66.1	6.92	69.0	6.98	71.0	7.04	
105	55.1	4.54	60.5	5.82	62.4	7.23	63.4	7.40	64.4	7.43	66.6	7.50	67.5	7.57	
110	55.1	5.09	58.0	6.55	60.4	7.88	60.6	7.92	61.5	7.95	62.8	8.03	63.0	8.10	
115	54.9	5.89	55.9	7.54	55.9	8.31	55.9	8.31	55.9	8.31	56.7	8.33	56.9	8.34	
118	47.7	4.99	48.6	6.39	48.6	6.99	48.6	7.05	48.6	7.05	49.3	7.07	49.1	7.08	
122	38.1	3.79	39.0	4.86	38.8	5.32	38.9	5.33	39.0	5.34	39.6	5.36	39.6	5.38	
120%	-9.9	49.7	1.72	59.3	2.09	68.9	2.47	73.8	2.66	77.1	2.87	80.6	3.29	82.3	3.40
	-5	49.7	1.81	59.3	2.20	68.9	2.61	73.8	2.81	77.1	3.03	80.6	3.47	82.3	3.59
	0	49.7	1.89	59.3	2.29	68.9	2.71	73.8	2.92	77.1	3.15	80.6	3.61	82.3	3.73
	5	49.7	1.96	59.3	2.37	68.9	2.81	73.8	3.03	77.1	3.27	80.6	3.74	82.3	3.87
	10	49.7	2.01	59.3	2.44	68.9	2.89	73.8	3.12	77.1	3.36	80.6	3.85	82.3	3.98
	14	49.7	2.09	59.3	2.53	68.9	2.99	73.8	3.23	77.1	3.48	80.6	3.99	82.3	4.13
	20	49.7	2.12	59.3	2.57	68.9	3.04	73.8	3.28	77.1	3.53	80.6	4.05	82.3	4.19
	25	49.7	2.15	59.3	2.60	68.9	3.07	73.8	3.32	77.1	3.57	80.6	4.10	82.3	4.24
	30	49.7	2.17	59.3	2.63	68.9	3.11	73.8	3.36	77.1	3.61	80.6	4.14	82.3	4.29
	35	49.7	2.20	59.3	2.66	68.9	3.15	73.8	3.41	77.1	3.66	80.6	4.19	82.3	4.34
	40	49.7	2.23	59.3	2.70	68.9	3.19	73.8	3.45	77.1	3.70	80.6	4.25	82.3	4.39
	45	49.7	2.25	59.3	2.72	68.9	3.22	73.8	3.49	77.1	3.75	80.6	4.29	82.3	4.44
	50	49.7	2.28	59.3	2.76	68.9	3.26	73.8	3.52	77.1	3.79	80.6	4.34	82.3	4.49
	55	49.7	2.32	59.3	2.81	68.9	3.32	73.8	3.60	76.3	3.86	79.5	4.42	81.4	4.53
	60	49.7	2.39	59.3	2.91	68.9	3.46	73.2	3.74	74.1	4.01	77.5	4.56	79.2	4.64
	65	49.7	2.44	59.3	2.97	68.9	3.52	72.1	3.81	73.2	4.09	76.4	4.71	78.3	4.74
	70	49.7	2.39	59.3	2.91	68.9	3.58	70.8	3.94	71.6	4.32	75.0	4.80	76.7	4.85
	75	49.7	2.45	59.3	3.10	68.9	3.83	69.7	4.23	70.8	4.63	73.9	5.03	75.8	5.06
	80	49.7	2.79	59.3	3.53	66.9	4.38	67.8	4.84	68.6	5.32	71.9	5.46	73.6	5.51
	85	49.7	2.97	59.3	3.77	65.8	4.68	66.7	5.16	67.8	5.64	70.8	5.69	72.7	5.74
	90	49.7	3.36	59.3	4.29	63.9	5.32	64.7	5.88	65.6	6.08	68.8	6.13	70.5	6.19
95	50.2	3.57	59.9	4.56	63.5	5.68	64.3	6.27	65.4	6.30	68.4	6.36	70.4	6.42	
100	50.2	3.86	59.9	4.93	62.4	6.15	63.5	6.60	64.3	6.64	67.6	6.70	69.3	6.76	
105	50.2	4.35	58.9	5.59	60.7	6.94	61.7	7.10	62.5	7.14	65.6	7.20	66.7	7.27	
110	50.2	4.89	57.4	6.29	59.3	7.57	59.5	7.61	60.3	7.63	62.2	7.71	62.5	7.78	
115	48.8	5.66	55.3	7.24	55.3	7.98	55.3	7.98	55.3	7.98	56.7	7.99	56.9	8.01	
118	43.6	4.99	48.1	6.13	48.2	6.71	48.2	6.77	48.2	6.77	49.3	6.78	49.1	6.79	
122	34.8	3.79	38.6	4.66	38.4	5.11	38.5	5.12	38.6	5.13	39.6	5.14	39.6	5.16	

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 80°F dry bulb (DB) and 67°F wet bulb (WB), and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).



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
110%	-9.9	46.0	1.58	54.9	1.91	63.8	2.26	68.2	2.45	72.6	2.63	80.0	3.00	81.7	3.11
	-5	46.0	1.67	54.9	2.02	63.8	2.39	68.2	2.59	72.6	2.78	80.0	3.17	81.7	3.28
	0	46.0	1.74	54.9	2.10	63.8	2.49	68.2	2.69	72.6	2.89	80.0	3.29	81.7	3.42
	5	46.0	1.80	54.9	2.17	63.8	2.58	68.2	2.79	72.6	2.99	80.0	3.41	81.7	3.54
	10	46.0	1.85	54.9	2.24	63.8	2.65	68.2	2.87	72.6	3.08	80.0	3.51	81.7	3.64
	14	46.0	1.92	54.9	2.32	63.8	2.75	68.2	2.98	72.6	3.19	80.0	3.64	81.7	3.78
	20	46.0	1.95	54.9	2.35	63.8	2.79	68.2	3.02	72.6	3.24	80.0	3.70	81.7	3.83
	25	46.0	1.97	54.9	2.38	63.8	2.82	68.2	3.05	72.6	3.28	80.0	3.75	81.7	3.88
	30	46.0	2.00	54.9	2.41	63.8	2.86	68.2	3.09	72.6	3.32	80.0	3.80	81.7	3.93
	35	46.0	2.03	54.9	2.45	63.8	2.89	68.2	3.13	72.6	3.37	80.0	3.86	81.7	4.00
	40	46.0	2.05	54.9	2.48	63.8	2.94	68.2	3.18	72.6	3.41	80.0	3.91	81.7	4.04
	45	46.0	2.09	54.9	2.52	63.8	2.99	68.2	3.23	72.6	3.47	80.0	3.98	81.7	4.11
	50	46.0	2.12	54.9	2.57	63.8	3.03	68.2	3.28	72.6	3.53	80.0	4.04	81.7	4.18
	55	46.0	2.16	54.9	2.61	63.8	3.09	68.2	3.35	72.6	3.60	78.9	4.11	80.6	4.22
	60	46.0	2.23	54.9	2.71	63.8	3.22	68.2	3.48	72.6	3.74	76.9	4.24	78.6	4.28
	65	46.0	2.27	54.9	2.77	63.8	3.28	68.2	3.55	72.6	3.81	75.8	4.38	77.5	4.42
	70	46.0	2.30	54.9	2.79	63.8	3.43	68.2	3.78	71.2	4.14	74.4	4.60	76.1	4.65
	75	46.0	2.35	54.9	2.97	63.8	3.67	68.2	4.05	70.1	4.44	73.2	4.82	74.9	4.86
	80	45.5	2.68	54.3	3.39	63.1	4.20	66.7	4.64	67.5	5.10	70.5	5.24	72.2	5.28
	85	45.5	2.85	54.3	3.62	63.1	4.49	65.6	4.95	66.4	5.41	69.4	5.45	71.1	5.50
90	45.5	3.23	54.3	4.11	62.8	5.10	63.7	5.64	64.5	5.83	67.4	5.88	69.1	5.94	
95	45.5	3.42	54.3	4.37	61.7	5.44	62.6	6.02	63.4	6.04	66.3	6.10	68.0	6.15	
100	45.5	3.70	54.3	4.73	60.9	5.90	61.7	6.33	62.6	6.37	65.5	6.43	67.2	6.48	
105	45.5	4.17	54.3	5.35	59.0	6.66	59.8	6.81	60.6	6.84	63.6	6.91	65.2	6.97	
110	45.5	4.69	54.3	6.03	57.2	7.26	57.4	7.29	58.2	7.32	60.0	7.39	60.2	7.46	
115	45.5	5.42	54.3	6.94	54.8	7.65	54.8	7.65	55.0	7.65	56.1	7.67	56.4	7.68	
118	44.0	4.94	47.2	5.88	47.7	6.43	47.7	6.49	47.9	6.49	48.8	6.50	48.6	6.52	
122	35.2	3.75	37.9	4.47	38.0	4.90	38.1	4.91	38.4	4.92	39.2	4.93	39.2	4.95	
100%	-9.9	40.4	1.39	48.2	1.68	56.0	1.99	60.0	2.17	65.9	2.35	73.9	2.71	78.1	2.82
	-5	40.4	1.47	48.2	1.77	56.0	2.10	60.0	2.29	65.9	2.48	73.9	2.86	78.1	2.98
	0	40.4	1.53	48.2	1.85	56.0	2.19	60.0	2.38	65.9	2.58	73.9	2.97	78.1	3.10
	5	40.4	1.59	48.2	1.91	56.0	2.27	60.0	2.47	65.9	2.67	73.9	3.08	78.1	3.21
	10	40.4	1.63	48.2	1.97	56.0	2.33	60.0	2.54	65.9	2.75	73.9	3.17	78.1	3.30
	14	40.4	1.69	48.2	2.04	56.0	2.42	60.0	2.63	65.9	2.85	73.9	3.29	78.1	3.42
	20	40.4	1.74	48.2	2.11	56.0	2.49	60.0	2.71	65.9	2.94	73.9	3.38	78.1	3.52
	25	40.4	1.79	48.2	2.16	56.0	2.56	60.0	2.77	65.9	3.02	73.9	3.46	78.1	3.60
	30	40.4	1.83	48.2	2.22	56.0	2.62	60.0	2.83	65.9	3.09	73.9	3.54	78.1	3.68
	35	40.4	1.86	48.2	2.25	56.0	2.66	60.0	2.88	65.9	3.14	73.9	3.60	78.1	3.74
	40	40.4	1.89	48.2	2.29	56.0	2.70	60.0	2.92	65.9	3.19	73.9	3.66	78.1	3.80
	45	40.4	1.93	48.2	2.34	56.0	2.76	60.0	2.99	65.9	3.25	73.9	3.73	78.1	3.88
	50	40.4	1.97	48.2	2.38	56.0	2.82	60.0	3.05	65.9	3.32	73.9	3.81	78.1	3.96
	55	40.4	2.00	48.2	2.43	56.0	2.87	60.0	3.11	65.9	3.39	73.9	3.88	77.3	4.02
	60	40.4	2.07	48.2	2.51	56.0	2.99	60.0	3.23	65.9	3.52	73.7	4.00	75.0	4.09
	65	40.4	2.11	48.2	2.57	56.0	3.05	60.0	3.30	65.9	3.59	72.6	4.13	74.2	4.21
	70	40.4	2.18	48.2	2.64	56.0	3.25	60.0	3.58	65.9	3.99	71.2	4.43	72.6	4.51
	75	40.4	2.23	48.2	2.82	56.0	3.48	60.0	3.84	65.9	4.27	70.1	4.64	71.7	4.69
	80	40.4	2.53	48.2	3.21	56.0	3.98	60.0	4.39	65.9	4.90	68.1	5.03	69.5	5.10
	85	40.4	2.70	48.2	3.43	56.0	4.25	60.0	4.69	65.7	5.20	67.0	5.24	68.7	5.31
90	40.4	3.06	48.2	3.89	56.0	4.83	60.0	5.34	63.5	5.61	65.1	5.65	66.5	5.74	
95	40.4	3.24	48.2	4.14	56.0	5.16	60.0	5.70	62.6	5.81	64.0	5.86	65.7	5.95	
100	40.4	3.50	48.2	4.47	56.0	5.58	58.9	5.99	61.6	6.11	63.2	6.16	64.6	6.25	
105	40.4	3.93	48.2	5.04	55.7	6.27	57.3	6.41	59.7	6.54	61.3	6.60	62.8	6.69	
110	40.4	4.40	48.2	5.66	55.0	6.81	56.3	6.84	57.4	6.97	58.3	7.03	59.4	7.14	
115	40.4	5.05	48.2	6.46	52.4	7.13	54.0	7.13	55.4	7.23	55.9	7.24	56.1	7.29	
118	40.4	5.09	42.3	6.06	45.6	5.99	47.0	6.05	48.2	6.14	48.6	6.15	48.4	6.19	
122	34.6	4.61	33.9	4.61	36.3	4.56	37.6	4.57	38.6	4.65	39.1	4.66	39.0	4.70	

TC = Total Capacity (MBh). PI = Power Input (kW) (includes compressor and outdoor fan).
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 The System Combination Ratio must be between 50–130%.

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

COOLING CAPACITY DATA



ARUN060GSS4

60,000 Btu/h 208-230V Heat Pump Units

MULTI V S Outdoor Unit Engineering Manual

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
90%	-9.9	36.4	1.24	43.4	1.49	50.6	1.76	54.1	1.89	57.6	2.02	64.6	2.33	71.5	2.56
	-5	36.4	1.31	43.4	1.57	50.6	1.86	54.1	2.00	57.6	2.13	64.6	2.46	71.5	2.70
	0	36.4	1.36	43.4	1.63	50.6	1.93	54.1	2.08	57.6	2.22	64.6	2.56	71.5	2.81
	5	36.4	1.41	43.4	1.69	50.6	2.00	54.1	2.15	57.6	2.30	64.6	2.65	71.5	2.91
	10	36.4	1.45	43.4	1.74	50.6	2.06	54.1	2.21	57.6	2.37	64.6	2.73	71.5	2.99
	14	36.4	1.51	43.4	1.81	50.6	2.13	54.1	2.29	57.6	2.45	64.6	2.82	71.5	3.10
	20	36.4	1.56	43.4	1.88	50.6	2.21	54.1	2.38	57.6	2.55	64.6	2.93	71.5	3.22
	25	36.4	1.61	43.4	1.93	50.6	2.28	54.1	2.46	57.6	2.64	64.6	3.01	71.5	3.32
	30	36.4	1.65	43.4	1.99	50.6	2.35	54.1	2.53	57.6	2.72	64.6	3.09	71.5	3.42
	35	36.4	1.70	43.4	2.05	50.6	2.42	54.1	2.60	57.6	2.80	64.6	3.19	71.5	3.52
	40	36.4	1.75	43.4	2.11	50.6	2.49	54.1	2.68	57.6	2.89	64.6	3.28	71.5	3.62
	45	36.4	1.80	43.4	2.16	50.6	2.55	54.1	2.75	57.6	2.96	64.6	3.36	71.5	3.71
	50	36.4	1.83	43.4	2.21	50.6	2.60	54.1	2.81	57.6	3.02	64.6	3.43	71.5	3.79
	55	36.4	1.86	43.4	2.24	50.6	2.65	54.1	2.86	57.6	3.08	64.6	3.50	71.5	3.83
	60	36.4	1.93	43.4	2.33	50.6	2.75	54.1	2.98	57.6	3.20	64.6	3.64	70.9	3.87
	65	36.4	1.96	43.4	2.38	50.6	2.81	54.1	3.03	57.6	3.26	64.6	3.70	70.4	4.06
	70	36.4	2.02	43.4	2.45	50.6	2.91	54.1	3.20	57.6	3.50	64.6	4.13	69.1	4.37
	75	36.4	2.05	43.4	2.56	50.6	3.11	54.1	3.43	57.6	3.76	64.6	4.31	68.0	4.56
	80	36.4	2.30	43.4	2.90	50.6	3.56	54.1	3.92	57.6	4.29	64.6	4.76	66.2	4.96
	85	36.4	2.45	43.4	3.09	50.6	3.80	54.1	4.18	57.6	4.59	63.8	5.02	65.1	5.16
	90	36.4	2.76	43.4	3.50	50.6	4.31	54.1	4.76	57.6	5.22	61.9	5.49	63.2	5.57
95	36.4	2.94	43.4	3.71	50.6	4.60	54.1	5.07	57.6	5.57	60.8	5.70	62.1	5.78	
100	36.4	3.04	43.4	3.87	50.6	4.79	54.1	5.27	57.6	5.69	60.0	5.95	61.1	6.01	
105	36.4	3.52	43.4	4.49	50.6	5.42	54.1	5.77	56.9	6.10	58.1	6.37	58.9	6.45	
110	36.4	4.05	43.4	5.18	50.6	5.94	54.1	6.24	54.6	6.62	55.4	6.84	55.8	6.92	
115	36.4	4.38	43.4	5.62	47.4	6.26	51.3	6.52	52.0	6.83	52.5	6.98	52.7	7.07	
118	36.4	4.65	42.3	6.06	41.3	5.26	44.7	5.53	45.3	5.80	45.7	5.92	45.5	6.00	
122	34.6	4.61	33.9	4.61	32.9	4.00	35.7	4.19	36.3	4.39	36.7	4.49	36.7	4.56	
80%	-9.9	32.4	1.08	38.6	1.30	45.0	1.51	47.9	1.64	51.2	1.76	57.3	2.01	63.5	2.24
	-5	32.4	1.14	38.6	1.37	45.0	1.59	47.9	1.73	51.2	1.86	57.3	2.12	63.5	2.37
	0	32.4	1.18	38.6	1.42	45.0	1.65	47.9	1.80	51.2	1.94	57.3	2.21	63.5	2.46
	5	32.4	1.22	38.6	1.48	45.0	1.71	47.9	1.86	51.2	2.01	57.3	2.29	63.5	2.55
	10	32.4	1.26	38.6	1.52	45.0	1.76	47.9	1.91	51.2	2.06	57.3	2.36	63.5	2.63
	14	32.4	1.31	38.6	1.57	45.0	1.83	47.9	1.98	51.2	2.14	57.3	2.44	63.5	2.72
	20	32.4	1.36	38.6	1.63	45.0	1.90	47.9	2.06	51.2	2.21	57.3	2.53	63.5	2.83
	25	32.4	1.40	38.6	1.68	45.0	1.96	47.9	2.12	51.2	2.27	57.3	2.60	63.5	2.91
	30	32.4	1.44	38.6	1.72	45.0	2.02	47.9	2.18	51.2	2.34	57.3	2.68	63.5	3.00
	35	32.4	1.48	38.6	1.77	45.0	2.08	47.9	2.24	51.2	2.40	57.3	2.75	63.5	3.08
	40	32.4	1.52	38.6	1.82	45.0	2.13	47.9	2.30	51.2	2.46	57.3	2.83	63.5	3.17
	45	32.4	1.54	38.6	1.84	45.0	2.17	47.9	2.34	51.2	2.50	57.3	2.87	63.5	3.21
	50	32.4	1.56	38.6	1.87	45.0	2.19	47.9	2.37	51.2	2.53	57.3	2.91	63.5	3.25
	55	32.4	1.58	38.6	1.90	45.0	2.23	47.9	2.41	51.2	2.58	57.3	2.96	63.5	3.31
	60	32.4	1.64	38.6	1.96	45.0	2.31	47.9	2.49	51.2	2.68	57.3	3.06	63.5	3.44
	65	32.4	1.66	38.6	2.00	45.0	2.36	47.9	2.54	51.2	2.74	57.3	3.12	63.5	3.52
	70	32.4	1.71	38.6	2.06	45.0	2.43	47.9	2.62	51.2	2.85	57.3	3.36	63.5	3.90
	75	32.4	1.74	38.6	2.10	45.0	2.55	47.9	2.79	51.2	3.04	57.3	3.58	63.5	4.11
	80	32.4	1.91	38.6	2.38	45.0	2.91	47.9	3.17	51.2	3.47	57.3	4.12	63.5	4.59
	85	32.4	2.03	38.6	2.53	45.0	3.10	47.9	3.39	51.2	3.71	57.3	4.39	63.5	4.71
	90	32.4	2.29	38.6	2.87	45.0	3.50	47.9	3.85	51.2	4.22	57.3	4.82	62.4	4.99
95	32.4	2.43	38.6	3.04	45.0	3.74	47.9	4.09	51.2	4.49	57.3	4.99	61.1	5.12	
100	32.4	2.62	38.6	3.28	45.0	4.03	47.9	4.38	51.2	4.67	57.3	5.19	59.7	5.29	
105	32.4	2.99	38.6	3.75	45.0	4.49	47.9	4.70	51.2	5.00	56.6	5.40	58.0	5.55	
110	32.4	3.39	38.6	4.28	45.0	4.76	47.9	5.02	51.2	5.39	54.6	5.60	54.9	5.84	
115	32.4	3.63	38.6	4.57	45.0	4.92	47.9	5.27	47.9	5.52	48.2	5.72	48.2	6.07	
118	32.4	3.85	38.6	4.86	41.3	5.26	42.1	5.00	41.7	4.68	42.0	4.86	41.6	5.15	
122	32.4	4.16	34.0	4.58	32.9	4.00	33.6	3.78	33.4	3.54	33.7	3.68	33.5	3.91	

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 80°F dry bulb (DB) and 67°F wet bulb (WB), and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).



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	28.4	0.95	33.8	1.13	39.4	1.33	42.1	1.42	44.7	1.52	50.1	1.74	55.7	1.94
	-5	28.4	1.00	33.8	1.19	39.4	1.40	42.1	1.50	44.7	1.60	50.1	1.83	55.7	2.05
	0	28.4	1.04	33.8	1.24	39.4	1.46	42.1	1.56	44.7	1.66	50.1	1.91	55.7	2.13
	5	28.4	1.08	33.8	1.29	39.4	1.51	42.1	1.62	44.7	1.72	50.1	1.98	55.7	2.21
	10	28.4	1.11	33.8	1.32	39.4	1.56	42.1	1.67	44.7	1.77	50.1	2.03	55.7	2.27
	14	28.4	1.15	33.8	1.37	39.4	1.61	42.1	1.73	44.7	1.84	50.1	2.11	55.7	2.36
	20	28.4	1.19	33.8	1.42	39.4	1.66	42.1	1.78	44.7	1.90	50.1	2.17	55.7	2.44
	25	28.4	1.23	33.8	1.45	39.4	1.70	42.1	1.83	44.7	1.96	50.1	2.23	55.7	2.50
	30	28.4	1.26	33.8	1.49	39.4	1.75	42.1	1.88	44.7	2.01	50.1	2.28	55.7	2.57
	35	28.4	1.29	33.8	1.53	39.4	1.80	42.1	1.93	44.7	2.06	50.1	2.34	55.7	2.64
	40	28.4	1.33	33.8	1.57	39.4	1.84	42.1	1.98	44.7	2.12	50.1	2.41	55.7	2.71
	45	28.4	1.35	33.8	1.60	39.4	1.87	42.1	2.01	44.7	2.15	50.1	2.45	55.7	2.75
	50	28.4	1.37	33.8	1.62	39.4	1.90	42.1	2.04	44.7	2.19	50.1	2.49	55.7	2.79
	55	28.4	1.39	33.8	1.65	39.4	1.93	42.1	2.07	44.7	2.22	50.1	2.53	55.7	2.85
	60	28.4	1.43	33.8	1.71	39.4	2.00	42.1	2.15	44.7	2.30	50.1	2.63	55.7	2.96
	65	28.4	1.46	33.8	1.74	39.4	2.03	42.1	2.19	44.7	2.35	50.1	2.68	55.7	3.01
	70	28.4	1.50	33.8	1.79	39.4	2.10	42.1	2.26	44.7	2.42	50.1	2.77	55.7	3.20
	75	28.4	1.52	33.8	1.82	39.4	2.14	42.1	2.34	44.7	2.53	50.1	2.96	55.7	3.39
	80	28.4	1.64	33.8	2.01	39.4	2.43	42.1	2.65	44.7	2.87	50.1	3.27	55.7	3.76
	85	28.4	1.74	33.8	2.14	39.4	2.59	42.1	2.83	44.7	3.10	50.1	3.49	55.7	3.92
90	28.4	1.96	33.8	2.41	39.4	2.93	42.1	3.20	44.7	3.50	50.1	3.89	55.7	4.25	
95	28.4	2.07	33.8	2.57	39.4	3.12	42.1	3.41	44.7	3.71	50.1	4.09	55.7	4.38	
100	28.4	2.23	33.8	2.77	39.4	3.36	42.1	3.68	44.7	3.82	50.1	4.28	55.7	4.50	
105	28.4	2.53	33.8	3.16	39.4	3.71	42.1	3.93	44.7	4.16	50.1	4.51	55.7	4.77	
110	28.4	2.85	33.8	3.58	39.4	3.93	42.1	4.16	44.7	4.50	50.1	4.70	54.1	5.12	
115	28.4	3.06	33.8	3.82	39.4	4.06	42.1	4.40	44.7	4.64	50.1	4.84	51.0	5.45	
118	28.4	3.25	33.8	4.05	39.4	4.31	42.1	4.66	40.7	4.64	42.0	4.11	41.6	4.63	
122	28.4	3.51	33.8	4.39	35.1	4.12	33.6	3.84	32.6	3.51	33.7	3.11	33.5	3.52	
60%	-9.9	24.4	0.82	28.9	0.96	33.8	1.12	35.9	1.20	38.3	1.29	43.1	1.46	47.7	1.63
	-5	24.4	0.87	28.9	1.01	33.8	1.18	35.9	1.27	38.3	1.36	43.1	1.54	47.7	1.72
	0	24.4	0.90	28.9	1.05	33.8	1.23	35.9	1.32	38.3	1.42	43.1	1.60	47.7	1.79
	5	24.4	0.94	28.9	1.09	33.8	1.28	35.9	1.36	38.3	1.47	43.1	1.66	47.7	1.86
	10	24.4	0.96	28.9	1.12	33.8	1.31	35.9	1.40	38.3	1.51	43.1	1.71	47.7	1.91
	14	24.4	1.00	28.9	1.16	33.8	1.36	35.9	1.45	38.3	1.57	43.1	1.77	47.7	1.98
	20	24.4	1.03	28.9	1.20	33.8	1.41	35.9	1.51	38.3	1.62	43.1	1.83	47.7	2.05
	25	24.4	1.05	28.9	1.24	33.8	1.44	35.9	1.55	38.3	1.66	43.1	1.88	47.7	2.11
	30	24.4	1.08	28.9	1.27	33.8	1.48	35.9	1.59	38.3	1.70	43.1	1.93	47.7	2.17
	35	24.4	1.11	28.9	1.31	33.8	1.52	35.9	1.63	38.3	1.74	43.1	1.98	47.7	2.22
	40	24.4	1.14	28.9	1.34	33.8	1.56	35.9	1.67	38.3	1.79	43.1	2.03	47.7	2.28
	45	24.4	1.15	28.9	1.35	33.8	1.57	35.9	1.69	38.3	1.81	43.1	2.05	47.7	2.30
	50	24.4	1.16	28.9	1.36	33.8	1.58	35.9	1.70	38.3	1.82	43.1	2.07	47.7	2.32
	55	24.4	1.17	28.9	1.39	33.8	1.62	35.9	1.73	38.3	1.85	43.1	2.11	47.7	2.36
	60	24.4	1.21	28.9	1.43	33.8	1.67	35.9	1.80	38.3	1.92	43.1	2.18	47.7	2.45
	65	24.4	1.23	28.9	1.46	33.8	1.70	35.9	1.83	38.3	1.96	43.1	2.22	47.7	2.50
	70	24.4	1.26	28.9	1.50	33.8	1.75	35.9	1.88	38.3	2.01	43.1	2.29	47.7	2.60
	75	24.4	1.28	28.9	1.52	33.8	1.78	35.9	1.92	38.3	2.07	43.1	2.42	47.7	2.77
	80	24.4	1.36	28.9	1.66	33.8	2.00	35.9	2.18	38.3	2.36	43.1	2.71	47.7	3.13
	85	24.4	1.45	28.9	1.77	33.8	2.12	35.9	2.32	38.3	2.53	43.1	2.86	47.7	3.22
90	24.4	1.62	28.9	2.00	33.8	2.40	35.9	2.62	38.3	2.84	43.1	3.19	47.7	3.52	
95	24.4	1.72	28.9	2.11	33.8	2.55	35.9	2.79	38.3	3.00	43.1	3.34	47.7	3.70	
100	24.4	1.84	28.9	2.27	33.8	2.75	35.9	3.01	38.3	3.14	43.1	3.54	47.7	3.86	
105	24.4	2.10	28.9	2.59	33.8	3.03	35.9	3.21	38.3	3.41	43.1	3.76	47.7	4.21	
110	24.4	2.36	28.9	2.94	33.8	3.27	35.9	3.40	38.3	3.69	43.1	4.02	47.7	4.59	
115	24.4	2.53	28.9	3.14	33.8	3.40	35.9	3.60	38.3	3.82	43.1	4.25	47.7	4.91	
118	24.4	2.67	28.9	3.32	33.8	3.61	35.9	3.83	38.3	4.07	42.0	4.11	41.6	4.63	
122	24.4	2.88	28.9	3.60	33.8	3.91	33.5	3.88	32.4	3.59	33.7	3.11	33.5	3.52	

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 80°F dry bulb (DB) and 67°F wet bulb (WB), and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).

COOLING CAPACITY DATA



ARUN060GSS4

60,000 Btu/h 208-230V Heat Pump 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
50%	-9.9	20.3	0.71	24.1	0.83	28.1	0.93	30.0	1.01	31.9	1.08	35.9	1.20	39.6	1.33
	-5	20.3	0.75	24.1	0.88	28.1	0.98	30.0	1.06	31.9	1.14	35.9	1.27	39.6	1.40
	0	20.3	0.78	24.1	0.91	28.1	1.02	30.0	1.10	31.9	1.19	35.9	1.32	39.6	1.46
	5	20.3	0.81	24.1	0.95	28.1	1.06	30.0	1.14	31.9	1.23	35.9	1.37	39.6	1.51
	10	20.3	0.83	24.1	0.98	28.1	1.09	30.0	1.18	31.9	1.27	35.9	1.41	39.6	1.56
	14	20.3	0.86	24.1	1.01	28.1	1.13	30.0	1.22	31.9	1.31	35.9	1.46	39.6	1.61
	20	20.3	0.89	24.1	1.04	28.1	1.18	30.0	1.26	31.9	1.35	35.9	1.51	39.6	1.68
	25	20.3	0.92	24.1	1.07	28.1	1.22	30.0	1.30	31.9	1.39	35.9	1.55	39.6	1.73
	30	20.3	0.94	24.1	1.10	28.1	1.26	30.0	1.34	31.9	1.43	35.9	1.60	39.6	1.78
	35	20.3	0.97	24.1	1.12	28.1	1.29	30.0	1.37	31.9	1.46	35.9	1.64	39.6	1.82
	40	20.3	0.99	24.1	1.15	28.1	1.32	30.0	1.41	31.9	1.50	35.9	1.68	39.6	1.87
	45	20.3	1.01	24.1	1.17	28.1	1.34	30.0	1.43	31.9	1.52	35.9	1.70	39.6	1.90
	50	20.3	1.02	24.1	1.19	28.1	1.36	30.0	1.45	31.9	1.54	35.9	1.73	39.6	1.93
	55	20.3	1.04	24.1	1.21	28.1	1.38	30.0	1.47	31.9	1.57	35.9	1.76	39.6	1.96
	60	20.3	1.07	24.1	1.24	28.1	1.43	30.0	1.52	31.9	1.62	35.9	1.82	39.6	2.03
	65	20.3	1.08	24.1	1.26	28.1	1.45	30.0	1.54	31.9	1.64	35.9	1.85	39.6	2.07
	70	20.3	1.11	24.1	1.28	28.1	1.48	30.0	1.59	31.9	1.69	35.9	1.90	39.6	2.13
	75	20.3	1.12	24.1	1.31	28.1	1.51	30.0	1.61	31.9	1.72	35.9	1.94	39.6	2.18
	80	20.3	1.15	24.1	1.38	28.1	1.62	30.0	1.75	31.9	1.88	35.9	2.16	39.6	2.47
	85	20.3	1.23	24.1	1.46	28.1	1.72	30.0	1.86	31.9	2.00	35.9	2.31	39.6	2.63
	90	20.3	1.37	24.1	1.63	28.1	1.94	30.0	2.09	31.9	2.25	35.9	2.60	39.6	2.98
95	20.3	1.45	24.1	1.73	28.1	2.05	30.0	2.22	31.9	2.39	35.9	2.76	39.6	3.17	
100	20.3	1.52	24.1	1.83	28.1	2.16	30.0	2.35	31.9	2.53	35.9	2.94	39.6	3.36	
105	20.3	1.66	24.1	2.02	28.1	2.39	30.0	2.59	31.9	2.80	35.9	3.25	39.6	3.74	
110	20.3	1.84	24.1	2.23	28.1	2.65	30.0	2.88	31.9	3.12	35.9	3.63	39.6	4.18	
115	20.3	1.97	24.1	2.39	28.1	2.85	30.0	3.10	31.9	3.36	35.9	3.92	39.6	4.50	
118	20.3	2.13	24.1	2.60	28.1	3.10	30.0	3.37	31.9	3.66	35.9	4.11	39.6	4.63	
122	20.3	2.35	24.1	2.87	28.1	3.43	30.0	3.74	31.9	3.59	33.7	3.11	33.5	3.52	

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 80°F dry bulb (DB) and 67°F wet bulb (WB), and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).



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	54.6	1.83	64.8	2.22	75.3	2.63	78.1	2.84	79.2	3.06	82.0	3.51	83.9	3.62
	-5	54.6	1.93	64.8	2.34	75.3	2.77	78.1	2.99	79.2	3.23	82.0	3.70	83.9	3.82
	0	54.6	2.00	64.8	2.43	75.3	2.89	78.1	3.11	79.2	3.36	82.0	3.85	83.9	3.98
	5	54.6	2.08	64.8	2.52	75.3	2.99	78.1	3.23	79.2	3.48	82.0	3.99	83.9	4.12
	10	54.6	2.14	64.8	2.59	75.3	3.08	78.1	3.32	79.2	3.58	82.0	4.11	83.9	4.24
	14	54.6	2.21	64.8	2.69	75.3	3.19	78.1	3.44	79.2	3.71	82.0	4.26	83.9	4.40
	20	54.6	2.25	64.8	2.73	75.3	3.24	78.1	3.49	79.2	3.76	82.0	4.31	83.9	4.46
	25	54.6	2.28	64.8	2.77	75.3	3.27	78.1	3.54	79.2	3.81	82.0	4.36	83.9	4.51
	30	54.6	2.31	64.8	2.80	75.3	3.31	78.1	3.58	79.2	3.85	82.0	4.41	83.9	4.57
	35	54.6	2.34	64.8	2.84	75.3	3.35	78.1	3.62	79.2	3.90	82.0	4.46	83.9	4.62
	40	54.6	2.37	64.8	2.87	75.3	3.39	78.1	3.67	79.2	3.94	82.0	4.52	83.9	4.68
	45	54.6	2.39	64.8	2.90	75.3	3.43	78.1	3.70	79.2	3.98	82.0	4.57	83.9	4.72
	50	54.6	2.42	64.8	2.93	75.3	3.46	78.1	3.74	79.2	4.02	82.0	4.61	83.9	4.77
	55	54.6	2.46	64.8	2.98	75.3	3.53	77.0	3.82	78.1	4.10	80.8	4.69	82.8	4.80
	60	54.6	2.54	64.8	3.09	74.2	3.67	75.3	3.97	76.2	4.26	78.9	4.84	80.8	4.86
	65	54.6	2.59	64.8	3.15	73.1	3.74	74.2	4.05	75.1	4.34	77.8	5.00	79.7	5.04
	70	54.6	2.49	64.8	3.03	71.7	3.73	72.6	4.10	73.7	4.50	76.4	5.00	78.3	5.05
	75	54.6	2.56	64.8	3.23	70.6	3.99	71.5	4.40	72.6	4.83	75.2	5.24	77.2	5.28
	80	54.6	2.91	64.8	3.68	68.7	4.56	69.5	5.04	70.6	5.54	73.3	5.69	75.2	5.74
	85	54.6	3.09	64.8	3.93	67.6	4.88	68.7	5.38	69.5	5.87	72.2	5.92	74.1	5.97
90	54.6	3.50	63.7	4.47	65.6	5.54	66.5	6.12	67.6	6.34	70.2	6.39	72.2	6.45	
95	55.1	3.72	63.3	4.75	65.2	5.91	66.3	6.54	67.2	6.56	69.8	6.62	71.8	6.69	
100	55.1	4.02	62.1	5.14	64.1	6.41	65.2	6.88	66.1	6.92	69.0	6.98	71.0	7.04	
105	55.1	4.54	60.5	5.82	62.4	7.23	63.4	7.40	64.4	7.43	66.6	7.50	67.5	7.57	
110	55.1	5.09	58.0	6.55	60.4	7.88	60.6	7.92	61.5	7.95	62.8	8.03	63.0	8.10	
115	54.9	5.89	55.9	7.54	55.9	8.31	55.9	8.31	55.9	8.31	56.7	8.33	56.9	8.34	
118	47.7	4.99	48.6	6.39	48.6	6.99	48.6	7.05	48.6	7.05	49.3	7.07	49.1	7.08	
122	38.1	3.79	39.0	4.86	38.8	5.32	38.9	5.33	39.0	5.34	39.6	5.36	39.6	5.38	
120%	-9.9	49.7	1.72	59.3	2.09	68.9	2.47	73.8	2.66	77.1	2.87	80.6	3.29	82.3	3.40
	-5	49.7	1.81	59.3	2.20	68.9	2.61	73.8	2.81	77.1	3.03	80.6	3.47	82.3	3.59
	0	49.7	1.89	59.3	2.29	68.9	2.71	73.8	2.92	77.1	3.15	80.6	3.61	82.3	3.73
	5	49.7	1.96	59.3	2.37	68.9	2.81	73.8	3.03	77.1	3.27	80.6	3.74	82.3	3.87
	10	49.7	2.01	59.3	2.44	68.9	2.89	73.8	3.12	77.1	3.36	80.6	3.85	82.3	3.98
	14	49.7	2.09	59.3	2.53	68.9	2.99	73.8	3.23	77.1	3.48	80.6	3.99	82.3	4.13
	20	49.7	2.12	59.3	2.57	68.9	3.04	73.8	3.28	77.1	3.53	80.6	4.05	82.3	4.19
	25	49.7	2.15	59.3	2.60	68.9	3.07	73.8	3.32	77.1	3.57	80.6	4.10	82.3	4.24
	30	49.7	2.17	59.3	2.63	68.9	3.11	73.8	3.36	77.1	3.61	80.6	4.14	82.3	4.29
	35	49.7	2.20	59.3	2.66	68.9	3.15	73.8	3.41	77.1	3.66	80.6	4.19	82.3	4.34
	40	49.7	2.23	59.3	2.70	68.9	3.19	73.8	3.45	77.1	3.70	80.6	4.25	82.3	4.39
	45	49.7	2.25	59.3	2.72	68.9	3.22	73.8	3.49	77.1	3.75	80.6	4.29	82.3	4.44
	50	49.7	2.28	59.3	2.76	68.9	3.26	73.8	3.52	77.1	3.79	80.6	4.34	82.3	4.49
	55	49.7	2.32	59.3	2.81	68.9	3.32	73.8	3.60	76.3	3.86	79.5	4.42	81.4	4.53
	60	49.7	2.39	59.3	2.91	68.9	3.46	73.2	3.74	74.1	4.01	77.5	4.56	79.2	4.64
	65	49.7	2.44	59.3	2.97	68.9	3.52	72.1	3.81	73.2	4.09	76.4	4.71	78.3	4.74
	70	49.7	2.39	59.3	2.91	68.9	3.58	70.8	3.94	71.6	4.32	75.0	4.80	76.7	4.85
	75	49.7	2.45	59.3	3.10	68.9	3.83	69.7	4.23	70.8	4.63	73.9	5.03	75.8	5.06
	80	49.7	2.79	59.3	3.53	66.9	4.38	67.8	4.84	68.6	5.32	71.9	5.46	73.6	5.51
	85	49.7	2.97	59.3	3.77	65.8	4.68	66.7	5.16	67.8	5.64	70.8	5.69	72.7	5.74
90	49.7	3.36	59.3	4.29	63.9	5.32	64.7	5.88	65.6	6.08	68.8	6.13	70.5	6.19	
95	50.2	3.57	59.9	4.56	63.5	5.68	64.3	6.27	65.4	6.30	68.4	6.36	70.4	6.42	
100	50.2	3.86	59.9	4.93	62.4	6.15	63.5	6.60	64.3	6.64	67.6	6.70	69.3	6.76	
105	50.2	4.35	58.9	5.59	60.7	6.94	61.7	7.10	62.5	7.14	65.6	7.20	66.7	7.27	
110	50.2	4.89	57.4	6.29	59.3	7.57	59.5	7.61	60.3	7.63	62.2	7.71	62.5	7.78	
115	48.8	5.66	55.3	7.24	55.3	7.98	55.3	7.98	55.3	7.98	56.7	7.99	56.9	8.01	
118	43.6	4.99	48.1	6.13	48.2	6.71	48.2	6.77	48.2	6.77	49.3	6.78	49.1	6.79	
122	34.8	3.79	38.6	4.66	38.4	5.11	38.5	5.12	38.6	5.13	39.6	5.14	39.6	5.16	

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

COOLING CAPACITY DATA



ARUB060GSS4

60,000 Btu/h 208-230V Heat Recovery Units

MULTI V S Outdoor Unit Engineering Manual

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
110%	-9.9	46.0	1.58	54.9	1.91	63.8	2.26	68.2	2.45	72.6	2.63	80.0	3.00	81.7	3.11
	-5	46.0	1.67	54.9	2.02	63.8	2.39	68.2	2.59	72.6	2.78	80.0	3.17	81.7	3.28
	0	46.0	1.74	54.9	2.10	63.8	2.49	68.2	2.69	72.6	2.89	80.0	3.29	81.7	3.42
	5	46.0	1.80	54.9	2.17	63.8	2.58	68.2	2.79	72.6	2.99	80.0	3.41	81.7	3.54
	10	46.0	1.85	54.9	2.24	63.8	2.65	68.2	2.87	72.6	3.08	80.0	3.51	81.7	3.64
	14	46.0	1.92	54.9	2.32	63.8	2.75	68.2	2.98	72.6	3.19	80.0	3.64	81.7	3.78
	20	46.0	1.95	54.9	2.35	63.8	2.79	68.2	3.02	72.6	3.24	80.0	3.70	81.7	3.83
	25	46.0	1.97	54.9	2.38	63.8	2.82	68.2	3.05	72.6	3.28	80.0	3.75	81.7	3.88
	30	46.0	2.00	54.9	2.41	63.8	2.86	68.2	3.09	72.6	3.32	80.0	3.80	81.7	3.93
	35	46.0	2.03	54.9	2.45	63.8	2.89	68.2	3.13	72.6	3.37	80.0	3.86	81.7	4.00
	40	46.0	2.05	54.9	2.48	63.8	2.94	68.2	3.18	72.6	3.41	80.0	3.91	81.7	4.04
	45	46.0	2.09	54.9	2.52	63.8	2.99	68.2	3.23	72.6	3.47	80.0	3.98	81.7	4.11
	50	46.0	2.12	54.9	2.57	63.8	3.03	68.2	3.28	72.6	3.53	80.0	4.04	81.7	4.18
	55	46.0	2.16	54.9	2.61	63.8	3.09	68.2	3.35	72.6	3.60	78.9	4.11	80.6	4.22
	60	46.0	2.23	54.9	2.71	63.8	3.22	68.2	3.48	72.6	3.74	76.9	4.24	78.6	4.28
	65	46.0	2.27	54.9	2.77	63.8	3.28	68.2	3.55	72.6	3.81	75.8	4.38	77.5	4.42
	70	46.0	2.30	54.9	2.79	63.8	3.43	68.2	3.78	71.2	4.14	74.4	4.60	76.1	4.65
	75	46.0	2.35	54.9	2.97	63.8	3.67	68.2	4.05	70.1	4.44	73.2	4.82	74.9	4.86
	80	45.5	2.68	54.3	3.39	63.1	4.20	66.7	4.64	67.5	5.10	70.5	5.24	72.2	5.28
	85	45.5	2.85	54.3	3.62	63.1	4.49	65.6	4.95	66.4	5.41	69.4	5.45	71.1	5.50
90	45.5	3.23	54.3	4.11	62.8	5.10	63.7	5.64	64.5	5.83	67.4	5.88	69.1	5.94	
95	45.5	3.42	54.3	4.37	61.7	5.44	62.6	6.02	63.4	6.04	66.3	6.10	68.0	6.15	
100	45.5	3.70	54.3	4.73	60.9	5.90	61.7	6.33	62.6	6.37	65.5	6.43	67.2	6.48	
105	45.5	4.17	54.3	5.35	59.0	6.66	59.8	6.81	60.6	6.84	63.6	6.91	65.2	6.97	
110	45.5	4.69	54.3	6.03	57.2	7.26	57.4	7.29	58.2	7.32	60.0	7.39	60.2	7.46	
115	45.5	5.42	54.3	6.94	54.8	7.65	54.8	7.65	55.0	7.65	56.1	7.67	56.4	7.68	
118	44.0	4.94	47.2	5.88	47.7	6.43	47.7	6.49	47.9	6.49	48.8	6.50	48.6	6.52	
122	35.2	3.75	37.9	4.47	38.0	4.90	38.1	4.91	38.4	4.92	39.2	4.93	39.2	4.95	
100%	-9.9	40.4	1.39	48.2	1.68	56.0	1.99	60.0	2.17	65.9	2.35	73.9	2.71	78.1	2.82
	-5	40.4	1.47	48.2	1.77	56.0	2.10	60.0	2.29	65.9	2.48	73.9	2.86	78.1	2.98
	0	40.4	1.53	48.2	1.85	56.0	2.19	60.0	2.38	65.9	2.58	73.9	2.97	78.1	3.10
	5	40.4	1.59	48.2	1.91	56.0	2.27	60.0	2.47	65.9	2.67	73.9	3.08	78.1	3.21
	10	40.4	1.63	48.2	1.97	56.0	2.33	60.0	2.54	65.9	2.75	73.9	3.17	78.1	3.30
	14	40.4	1.69	48.2	2.04	56.0	2.42	60.0	2.63	65.9	2.85	73.9	3.29	78.1	3.42
	20	40.4	1.74	48.2	2.11	56.0	2.49	60.0	2.71	65.9	2.94	73.9	3.38	78.1	3.52
	25	40.4	1.79	48.2	2.16	56.0	2.56	60.0	2.77	65.9	3.02	73.9	3.46	78.1	3.60
	30	40.4	1.83	48.2	2.22	56.0	2.62	60.0	2.83	65.9	3.09	73.9	3.54	78.1	3.68
	35	40.4	1.86	48.2	2.25	56.0	2.66	60.0	2.88	65.9	3.14	73.9	3.60	78.1	3.74
	40	40.4	1.89	48.2	2.29	56.0	2.70	60.0	2.92	65.9	3.19	73.9	3.66	78.1	3.80
	45	40.4	1.93	48.2	2.34	56.0	2.76	60.0	2.99	65.9	3.25	73.9	3.73	78.1	3.88
	50	40.4	1.97	48.2	2.38	56.0	2.82	60.0	3.05	65.9	3.32	73.9	3.81	78.1	3.96
	55	40.4	2.00	48.2	2.43	56.0	2.87	60.0	3.11	65.9	3.39	73.9	3.88	77.3	4.02
	60	40.4	2.07	48.2	2.51	56.0	2.99	60.0	3.23	65.9	3.52	73.7	4.00	75.0	4.09
	65	40.4	2.11	48.2	2.57	56.0	3.05	60.0	3.30	65.9	3.59	72.6	4.13	74.2	4.21
	70	40.4	2.18	48.2	2.64	56.0	3.25	60.0	3.58	65.9	3.99	71.2	4.43	72.6	4.51
	75	40.4	2.23	48.2	2.82	56.0	3.48	60.0	3.84	65.9	4.27	70.1	4.64	71.7	4.69
	80	40.4	2.53	48.2	3.21	56.0	3.98	60.0	4.39	65.9	4.90	68.1	5.03	69.5	5.10
	85	40.4	2.70	48.2	3.43	56.0	4.25	60.0	4.69	65.7	5.20	67.0	5.24	68.7	5.31
90	40.4	3.06	48.2	3.89	56.0	4.83	60.0	5.34	63.5	5.61	65.1	5.65	66.5	5.74	
95	40.4	3.24	48.2	4.14	56.0	5.16	60.0	5.70	62.6	5.81	64.0	5.86	65.7	5.95	
100	40.4	3.50	48.2	4.47	56.0	5.58	58.9	5.99	61.6	6.11	63.2	6.16	64.6	6.25	
105	40.4	3.93	48.2	5.04	55.7	6.27	57.3	6.41	59.7	6.54	61.3	6.60	62.8	6.69	
110	40.4	4.40	48.2	5.66	55.0	6.81	56.3	6.84	57.4	6.97	58.3	7.03	59.4	7.14	
115	40.4	5.05	48.2	6.46	52.4	7.13	54.0	7.13	55.4	7.23	55.9	7.24	56.1	7.29	
118	40.4	5.09	42.3	6.06	45.6	5.99	47.0	6.05	48.2	6.14	48.6	6.15	48.4	6.19	
122	34.6	4.61	33.9	4.61	36.3	4.56	37.6	4.57	38.6	4.65	39.1	4.66	39.0	4.70	

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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
90%	-9.9	36.4	1.24	43.4	1.49	50.6	1.76	54.1	1.89	57.6	2.02	64.6	2.33	71.5	2.56
	-5	36.4	1.31	43.4	1.57	50.6	1.86	54.1	2.00	57.6	2.13	64.6	2.46	71.5	2.70
	0	36.4	1.36	43.4	1.63	50.6	1.93	54.1	2.08	57.6	2.22	64.6	2.56	71.5	2.81
	5	36.4	1.41	43.4	1.69	50.6	2.00	54.1	2.15	57.6	2.30	64.6	2.65	71.5	2.91
	10	36.4	1.45	43.4	1.74	50.6	2.06	54.1	2.21	57.6	2.37	64.6	2.73	71.5	2.99
	14	36.4	1.51	43.4	1.81	50.6	2.13	54.1	2.29	57.6	2.45	64.6	2.82	71.5	3.10
	20	36.4	1.56	43.4	1.88	50.6	2.21	54.1	2.38	57.6	2.55	64.6	2.93	71.5	3.22
	25	36.4	1.61	43.4	1.93	50.6	2.28	54.1	2.46	57.6	2.64	64.6	3.01	71.5	3.32
	30	36.4	1.65	43.4	1.99	50.6	2.35	54.1	2.53	57.6	2.72	64.6	3.09	71.5	3.42
	35	36.4	1.70	43.4	2.05	50.6	2.42	54.1	2.60	57.6	2.80	64.6	3.19	71.5	3.52
	40	36.4	1.75	43.4	2.11	50.6	2.49	54.1	2.68	57.6	2.89	64.6	3.28	71.5	3.62
	45	36.4	1.80	43.4	2.16	50.6	2.55	54.1	2.75	57.6	2.96	64.6	3.36	71.5	3.71
	50	36.4	1.83	43.4	2.21	50.6	2.60	54.1	2.81	57.6	3.02	64.6	3.43	71.5	3.79
	55	36.4	1.86	43.4	2.24	50.6	2.65	54.1	2.86	57.6	3.08	64.6	3.50	71.5	3.83
	60	36.4	1.93	43.4	2.33	50.6	2.75	54.1	2.98	57.6	3.20	64.6	3.64	70.9	3.87
	65	36.4	1.96	43.4	2.38	50.6	2.81	54.1	3.03	57.6	3.26	64.6	3.70	70.4	4.06
	70	36.4	2.02	43.4	2.45	50.6	2.91	54.1	3.20	57.6	3.50	64.6	4.13	69.1	4.37
	75	36.4	2.05	43.4	2.56	50.6	3.11	54.1	3.43	57.6	3.76	64.6	4.31	68.0	4.56
	80	36.4	2.30	43.4	2.90	50.6	3.56	54.1	3.92	57.6	4.29	64.6	4.76	66.2	4.96
	85	36.4	2.45	43.4	3.09	50.6	3.80	54.1	4.18	57.6	4.59	63.8	5.02	65.1	5.16
	90	36.4	2.76	43.4	3.50	50.6	4.31	54.1	4.76	57.6	5.22	61.9	5.49	63.2	5.57
95	36.4	2.94	43.4	3.71	50.6	4.60	54.1	5.07	57.6	5.57	60.8	5.70	62.1	5.78	
100	36.4	3.04	43.4	3.87	50.6	4.79	54.1	5.27	57.6	5.69	60.0	5.95	61.1	6.01	
105	36.4	3.52	43.4	4.49	50.6	5.42	54.1	5.77	56.9	6.10	58.1	6.37	58.9	6.45	
110	36.4	4.05	43.4	5.18	50.6	5.94	54.1	6.24	54.6	6.62	55.4	6.84	55.8	6.92	
115	36.4	4.38	43.4	5.62	47.4	6.26	51.3	6.52	52.0	6.83	52.5	6.98	52.7	7.07	
118	36.4	4.65	42.3	6.06	41.3	5.26	44.7	5.53	45.3	5.80	45.7	5.92	45.5	6.00	
122	34.6	4.61	33.9	4.61	32.9	4.00	35.7	4.19	36.3	4.39	36.7	4.49	36.7	4.56	
80%	-9.9	32.4	1.08	38.6	1.30	45.0	1.51	47.9	1.64	51.2	1.76	57.3	2.01	63.5	2.24
	-5	32.4	1.14	38.6	1.37	45.0	1.59	47.9	1.73	51.2	1.86	57.3	2.12	63.5	2.37
	0	32.4	1.18	38.6	1.42	45.0	1.65	47.9	1.80	51.2	1.94	57.3	2.21	63.5	2.46
	5	32.4	1.22	38.6	1.48	45.0	1.71	47.9	1.86	51.2	2.01	57.3	2.29	63.5	2.55
	10	32.4	1.26	38.6	1.52	45.0	1.76	47.9	1.91	51.2	2.06	57.3	2.36	63.5	2.63
	14	32.4	1.31	38.6	1.57	45.0	1.83	47.9	1.98	51.2	2.14	57.3	2.44	63.5	2.72
	20	32.4	1.36	38.6	1.63	45.0	1.90	47.9	2.06	51.2	2.21	57.3	2.53	63.5	2.83
	25	32.4	1.40	38.6	1.68	45.0	1.96	47.9	2.12	51.2	2.27	57.3	2.60	63.5	2.91
	30	32.4	1.44	38.6	1.72	45.0	2.02	47.9	2.18	51.2	2.34	57.3	2.68	63.5	3.00
	35	32.4	1.48	38.6	1.77	45.0	2.08	47.9	2.24	51.2	2.40	57.3	2.75	63.5	3.08
	40	32.4	1.52	38.6	1.82	45.0	2.13	47.9	2.30	51.2	2.46	57.3	2.83	63.5	3.17
	45	32.4	1.54	38.6	1.84	45.0	2.17	47.9	2.34	51.2	2.50	57.3	2.87	63.5	3.21
	50	32.4	1.56	38.6	1.87	45.0	2.19	47.9	2.37	51.2	2.53	57.3	2.91	63.5	3.25
	55	32.4	1.58	38.6	1.90	45.0	2.23	47.9	2.41	51.2	2.58	57.3	2.96	63.5	3.31
	60	32.4	1.64	38.6	1.96	45.0	2.31	47.9	2.49	51.2	2.68	57.3	3.06	63.5	3.44
	65	32.4	1.66	38.6	2.00	45.0	2.36	47.9	2.54	51.2	2.74	57.3	3.12	63.5	3.52
	70	32.4	1.71	38.6	2.06	45.0	2.43	47.9	2.62	51.2	2.85	57.3	3.36	63.5	3.90
	75	32.4	1.74	38.6	2.10	45.0	2.55	47.9	2.79	51.2	3.04	57.3	3.58	63.5	4.11
	80	32.4	1.91	38.6	2.38	45.0	2.91	47.9	3.17	51.2	3.47	57.3	4.12	63.5	4.59
	85	32.4	2.03	38.6	2.53	45.0	3.10	47.9	3.39	51.2	3.71	57.3	4.39	63.5	4.71
	90	32.4	2.29	38.6	2.87	45.0	3.50	47.9	3.85	51.2	4.22	57.3	4.82	62.4	4.99
95	32.4	2.43	38.6	3.04	45.0	3.74	47.9	4.09	51.2	4.49	57.3	4.99	61.1	5.12	
100	32.4	2.62	38.6	3.28	45.0	4.03	47.9	4.38	51.2	4.67	57.3	5.19	59.7	5.29	
105	32.4	2.99	38.6	3.75	45.0	4.49	47.9	4.70	51.2	5.00	56.6	5.40	58.0	5.55	
110	32.4	3.39	38.6	4.28	45.0	4.76	47.9	5.02	51.2	5.39	54.6	5.60	54.9	5.84	
115	32.4	3.63	38.6	4.57	45.0	4.92	47.9	5.27	47.9	5.52	48.2	5.72	48.2	6.07	
118	32.4	3.85	38.6	4.86	41.3	5.26	42.1	5.00	41.7	4.68	42.0	4.86	41.6	5.15	
122	32.4	4.16	34.0	4.58	32.9	4.00	33.6	3.78	33.4	3.54	33.7	3.68	33.5	3.91	

Performance Data

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 80°F dry bulb (DB) and 67°F wet bulb (WB), and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).

COOLING CAPACITY DATA



ARUB060GSS4

60,000 Btu/h 208-230V Heat Recovery Units

MULTI V S Outdoor Unit Engineering Manual

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
70%	-9.9	28.4	0.95	33.8	1.13	39.4	1.33	42.1	1.42	44.7	1.52	50.1	1.74	55.7	1.94
	-5	28.4	1.00	33.8	1.19	39.4	1.40	42.1	1.50	44.7	1.60	50.1	1.83	55.7	2.05
	0	28.4	1.04	33.8	1.24	39.4	1.46	42.1	1.56	44.7	1.66	50.1	1.91	55.7	2.13
	5	28.4	1.08	33.8	1.29	39.4	1.51	42.1	1.62	44.7	1.72	50.1	1.98	55.7	2.21
	10	28.4	1.11	33.8	1.32	39.4	1.56	42.1	1.67	44.7	1.77	50.1	2.03	55.7	2.27
	14	28.4	1.15	33.8	1.37	39.4	1.61	42.1	1.73	44.7	1.84	50.1	2.11	55.7	2.36
	20	28.4	1.19	33.8	1.42	39.4	1.66	42.1	1.78	44.7	1.90	50.1	2.17	55.7	2.44
	25	28.4	1.23	33.8	1.45	39.4	1.70	42.1	1.83	44.7	1.96	50.1	2.23	55.7	2.50
	30	28.4	1.26	33.8	1.49	39.4	1.75	42.1	1.88	44.7	2.01	50.1	2.28	55.7	2.57
	35	28.4	1.29	33.8	1.53	39.4	1.80	42.1	1.93	44.7	2.06	50.1	2.34	55.7	2.64
	40	28.4	1.33	33.8	1.57	39.4	1.84	42.1	1.98	44.7	2.12	50.1	2.41	55.7	2.71
	45	28.4	1.35	33.8	1.60	39.4	1.87	42.1	2.01	44.7	2.15	50.1	2.45	55.7	2.75
	50	28.4	1.37	33.8	1.62	39.4	1.90	42.1	2.04	44.7	2.19	50.1	2.49	55.7	2.79
	55	28.4	1.39	33.8	1.65	39.4	1.93	42.1	2.07	44.7	2.22	50.1	2.53	55.7	2.85
	60	28.4	1.43	33.8	1.71	39.4	2.00	42.1	2.15	44.7	2.30	50.1	2.63	55.7	2.96
	65	28.4	1.46	33.8	1.74	39.4	2.03	42.1	2.19	44.7	2.35	50.1	2.68	55.7	3.01
	70	28.4	1.50	33.8	1.79	39.4	2.10	42.1	2.26	44.7	2.42	50.1	2.77	55.7	3.20
	75	28.4	1.52	33.8	1.82	39.4	2.14	42.1	2.34	44.7	2.53	50.1	2.96	55.7	3.39
	80	28.4	1.64	33.8	2.01	39.4	2.43	42.1	2.65	44.7	2.87	50.1	3.27	55.7	3.76
	85	28.4	1.74	33.8	2.14	39.4	2.59	42.1	2.83	44.7	3.10	50.1	3.49	55.7	3.92
90	28.4	1.96	33.8	2.41	39.4	2.93	42.1	3.20	44.7	3.50	50.1	3.89	55.7	4.25	
95	28.4	2.07	33.8	2.57	39.4	3.12	42.1	3.41	44.7	3.71	50.1	4.09	55.7	4.38	
100	28.4	2.23	33.8	2.77	39.4	3.36	42.1	3.68	44.7	3.82	50.1	4.28	55.7	4.50	
105	28.4	2.53	33.8	3.16	39.4	3.71	42.1	3.93	44.7	4.16	50.1	4.51	55.7	4.77	
110	28.4	2.85	33.8	3.58	39.4	3.93	42.1	4.16	44.7	4.50	50.1	4.70	54.1	5.12	
115	28.4	3.06	33.8	3.82	39.4	4.06	42.1	4.40	44.7	4.64	50.1	4.84	51.0	5.45	
118	28.4	3.25	33.8	4.05	39.4	4.31	42.1	4.66	40.7	4.64	42.0	4.11	41.6	4.63	
122	28.4	3.51	33.8	4.39	35.1	4.12	33.6	3.84	32.6	3.51	33.7	3.11	33.5	3.52	
60%	-9.9	24.4	0.82	28.9	0.96	33.8	1.12	35.9	1.20	38.3	1.29	43.1	1.46	47.7	1.63
	-5	24.4	0.87	28.9	1.01	33.8	1.18	35.9	1.27	38.3	1.36	43.1	1.54	47.7	1.72
	0	24.4	0.90	28.9	1.05	33.8	1.23	35.9	1.32	38.3	1.42	43.1	1.60	47.7	1.79
	5	24.4	0.94	28.9	1.09	33.8	1.28	35.9	1.36	38.3	1.47	43.1	1.66	47.7	1.86
	10	24.4	0.96	28.9	1.12	33.8	1.31	35.9	1.40	38.3	1.51	43.1	1.71	47.7	1.91
	14	24.4	1.00	28.9	1.16	33.8	1.36	35.9	1.45	38.3	1.57	43.1	1.77	47.7	1.98
	20	24.4	1.03	28.9	1.20	33.8	1.41	35.9	1.51	38.3	1.62	43.1	1.83	47.7	2.05
	25	24.4	1.05	28.9	1.24	33.8	1.44	35.9	1.55	38.3	1.66	43.1	1.88	47.7	2.11
	30	24.4	1.08	28.9	1.27	33.8	1.48	35.9	1.59	38.3	1.70	43.1	1.93	47.7	2.17
	35	24.4	1.11	28.9	1.31	33.8	1.52	35.9	1.63	38.3	1.74	43.1	1.98	47.7	2.22
	40	24.4	1.14	28.9	1.34	33.8	1.56	35.9	1.67	38.3	1.79	43.1	2.03	47.7	2.28
	45	24.4	1.15	28.9	1.35	33.8	1.57	35.9	1.69	38.3	1.81	43.1	2.05	47.7	2.30
	50	24.4	1.16	28.9	1.36	33.8	1.58	35.9	1.70	38.3	1.82	43.1	2.07	47.7	2.32
	55	24.4	1.17	28.9	1.39	33.8	1.62	35.9	1.73	38.3	1.85	43.1	2.11	47.7	2.36
	60	24.4	1.21	28.9	1.43	33.8	1.67	35.9	1.80	38.3	1.92	43.1	2.18	47.7	2.45
	65	24.4	1.23	28.9	1.46	33.8	1.70	35.9	1.83	38.3	1.96	43.1	2.22	47.7	2.50
	70	24.4	1.26	28.9	1.50	33.8	1.75	35.9	1.88	38.3	2.01	43.1	2.29	47.7	2.60
	75	24.4	1.28	28.9	1.52	33.8	1.78	35.9	1.92	38.3	2.07	43.1	2.42	47.7	2.77
	80	24.4	1.36	28.9	1.66	33.8	2.00	35.9	2.18	38.3	2.36	43.1	2.71	47.7	3.13
	85	24.4	1.45	28.9	1.77	33.8	2.12	35.9	2.32	38.3	2.53	43.1	2.86	47.7	3.22
90	24.4	1.62	28.9	2.00	33.8	2.40	35.9	2.62	38.3	2.84	43.1	3.19	47.7	3.52	
95	24.4	1.72	28.9	2.11	33.8	2.55	35.9	2.79	38.3	3.00	43.1	3.34	47.7	3.70	
100	24.4	1.84	28.9	2.27	33.8	2.75	35.9	3.01	38.3	3.14	43.1	3.54	47.7	3.86	
105	24.4	2.10	28.9	2.59	33.8	3.03	35.9	3.21	38.3	3.41	43.1	3.76	47.7	4.21	
110	24.4	2.36	28.9	2.94	33.8	3.27	35.9	3.40	38.3	3.69	43.1	4.02	47.7	4.59	
115	24.4	2.53	28.9	3.14	33.8	3.40	35.9	3.60	38.3	3.82	43.1	4.25	47.7	4.91	
118	24.4	2.67	28.9	3.32	33.8	3.61	35.9	3.83	38.3	4.07	42.0	4.11	41.6	4.63	
122	24.4	2.88	28.9	3.60	33.8	3.91	33.5	3.88	32.4	3.59	33.7	3.11	33.5	3.52	

TC = Total Capacity (MBh). PI = Power Input (kW) (includes compressor and outdoor fan).
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 The System Combination Ratio must be between 50-130%.

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 0 ft. level difference between outdoor and indoor units.
 Nominal cooling capacity rating obtained with air entering the indoor unit at 80°F dry bulb (DB) and 67°F wet bulb (WB), and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).



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	20.3	0.71	24.1	0.83	28.1	0.93	30.0	1.01	31.9	1.08	35.9	1.20	39.6	1.33
	-5	20.3	0.75	24.1	0.88	28.1	0.98	30.0	1.06	31.9	1.14	35.9	1.27	39.6	1.40
	0	20.3	0.78	24.1	0.91	28.1	1.02	30.0	1.10	31.9	1.19	35.9	1.32	39.6	1.46
	5	20.3	0.81	24.1	0.95	28.1	1.06	30.0	1.14	31.9	1.23	35.9	1.37	39.6	1.51
	10	20.3	0.83	24.1	0.98	28.1	1.09	30.0	1.18	31.9	1.27	35.9	1.41	39.6	1.56
	14	20.3	0.86	24.1	1.01	28.1	1.13	30.0	1.22	31.9	1.31	35.9	1.46	39.6	1.61
	20	20.3	0.89	24.1	1.04	28.1	1.18	30.0	1.26	31.9	1.35	35.9	1.51	39.6	1.68
	25	20.3	0.92	24.1	1.07	28.1	1.22	30.0	1.30	31.9	1.39	35.9	1.55	39.6	1.73
	30	20.3	0.94	24.1	1.10	28.1	1.26	30.0	1.34	31.9	1.43	35.9	1.60	39.6	1.78
	35	20.3	0.97	24.1	1.12	28.1	1.29	30.0	1.37	31.9	1.46	35.9	1.64	39.6	1.82
	40	20.3	0.99	24.1	1.15	28.1	1.32	30.0	1.41	31.9	1.50	35.9	1.68	39.6	1.87
	45	20.3	1.01	24.1	1.17	28.1	1.34	30.0	1.43	31.9	1.52	35.9	1.70	39.6	1.90
	50	20.3	1.02	24.1	1.19	28.1	1.36	30.0	1.45	31.9	1.54	35.9	1.73	39.6	1.93
	55	20.3	1.04	24.1	1.21	28.1	1.38	30.0	1.47	31.9	1.57	35.9	1.76	39.6	1.96
	60	20.3	1.07	24.1	1.24	28.1	1.43	30.0	1.52	31.9	1.62	35.9	1.82	39.6	2.03
	65	20.3	1.08	24.1	1.26	28.1	1.45	30.0	1.54	31.9	1.64	35.9	1.85	39.6	2.07
	70	20.3	1.11	24.1	1.28	28.1	1.48	30.0	1.59	31.9	1.69	35.9	1.90	39.6	2.13
	75	20.3	1.12	24.1	1.31	28.1	1.51	30.0	1.61	31.9	1.72	35.9	1.94	39.6	2.18
	80	20.3	1.15	24.1	1.38	28.1	1.62	30.0	1.75	31.9	1.88	35.9	2.16	39.6	2.47
	85	20.3	1.23	24.1	1.46	28.1	1.72	30.0	1.86	31.9	2.00	35.9	2.31	39.6	2.63
	90	20.3	1.37	24.1	1.63	28.1	1.94	30.0	2.09	31.9	2.25	35.9	2.60	39.6	2.98
95	20.3	1.45	24.1	1.73	28.1	2.05	30.0	2.22	31.9	2.39	35.9	2.76	39.6	3.17	
100	20.3	1.52	24.1	1.83	28.1	2.16	30.0	2.35	31.9	2.53	35.9	2.94	39.6	3.36	
105	20.3	1.66	24.1	2.02	28.1	2.39	30.0	2.59	31.9	2.80	35.9	3.25	39.6	3.74	
110	20.3	1.84	24.1	2.23	28.1	2.65	30.0	2.88	31.9	3.12	35.9	3.63	39.6	4.18	
115	20.3	1.97	24.1	2.39	28.1	2.85	30.0	3.10	31.9	3.36	35.9	3.92	39.6	4.50	
118	20.3	2.13	24.1	2.60	28.1	3.10	30.0	3.37	31.9	3.66	35.9	4.11	39.6	4.63	
122	20.3	2.35	24.1	2.87	28.1	3.43	30.0	3.74	31.9	3.59	33.7	3.11	33.5	3.52	

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 80°F dry bulb (DB) and 67°F wet bulb (WB), and outdoor ambient conditions of 95°F dry bulb (DB) and 75°F wet bulb (WB).

HEATING CAPACITY DATA



ARUN024GSS4

24,000 Btu/h 208-230V Heat Pump Units

MULTI V S Outdoor Unit Engineering Manual

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	-4.0	-4.4	21.3	1.59	21.3	1.72	21.3	1.90	21.3	2.06	21.2	2.21	21.2	2.37	21.2	2.45	21.2	2.55
	0.0	-0.4	22.6	1.73	22.6	1.85	22.6	2.04	22.5	2.19	22.4	2.35	22.4	2.51	22.4	2.59	22.4	2.69
	5.0	4.5	24.1	1.90	24.1	2.03	24.1	2.21	24.0	2.37	23.9	2.52	23.9	2.68	23.9	2.76	23.9	2.86
	10.0	9.0	25.6	2.07	25.6	2.20	25.6	2.38	25.6	2.54	25.5	2.69	25.5	2.85	25.5	2.93	25.5	3.04
	15.0	14.0	27.2	2.24	27.2	2.37	27.2	2.55	27.1	2.71	27.0	2.86	27.0	3.02	27.0	3.10	27.0	3.20
	20.0	19.0	28.7	2.42	28.7	2.54	28.7	2.73	28.6	2.88	28.5	3.04	28.5	3.09	28.5	3.03	28.5	2.94
	25.0	23.0	30.3	2.59	30.3	2.71	30.3	2.90	30.2	2.99	30.1	3.08	30.1	2.95	30.1	2.88	30.1	2.80
	30.0	28.0	31.8	2.76	31.8	2.89	31.8	3.07	31.7	3.00	31.6	2.93	31.4	2.80	31.0	2.74	30.5	2.65
	35.0	32.0	33.3	3.09	33.3	3.06	33.3	3.02	33.2	2.90	33.1	2.77	32.5	2.66	31.1	2.59	29.3	2.51
	40.0	36.0	34.9	3.10	34.9	2.99	34.9	2.82	34.8	2.72	34.7	2.62	32.9	2.51	31.0	2.45	28.4	2.37
	45.0	41.0	36.1	2.76	36.1	2.70	36.1	2.61	35.5	2.54	35.0	2.46	32.9	2.36	31.0	2.30	28.4	2.22
	47.0	43.0	36.1	2.69	36.1	2.63	36.1	2.54	35.5	2.47	35.0	2.40	32.9	2.30	31.0	2.24	28.4	2.16
	50.0	46.0	36.1	2.59	36.1	2.53	36.1	2.45	35.5	2.38	35.0	2.31	32.9	2.22	31.0	2.16	28.4	2.08
55.0	51.0	36.1	2.43	36.1	2.38	36.1	2.30	35.5	2.23	35.0	2.17	32.9	2.08	31.0	2.03	28.4	1.96	
60.0	56.0	36.1	2.26	36.1	2.21	36.1	2.14	35.5	2.08	35.0	2.02	32.9	1.93	31.0	1.88	28.4	1.82	
120	-4.0	-4.4	21.2	1.78	21.2	1.90	21.2	2.09	21.1	2.15	21.0	2.21	21.0	2.45	21.0	2.50	21.0	2.57
	0.0	-0.4	22.4	1.91	22.4	2.04	22.4	2.23	22.3	2.29	22.3	2.35	22.3	2.59	22.3	2.64	22.3	2.71
	5.0	4.5	23.9	2.09	23.9	2.21	23.9	2.40	23.9	2.46	23.8	2.52	23.8	2.76	23.8	2.81	23.8	2.88
	10.0	9.0	25.5	2.26	25.5	2.38	25.5	2.57	25.4	2.63	25.3	2.69	25.3	2.94	25.3	2.99	25.3	3.06
	15.0	14.0	27.0	2.43	27.0	2.55	27.0	2.74	26.9	2.80	26.8	2.86	26.8	3.10	26.8	3.16	26.8	3.23
	20.0	19.0	28.5	2.60	28.5	2.73	28.5	2.91	28.4	3.02	28.3	3.12	28.3	3.03	28.3	2.99	28.3	2.94
	25.0	23.0	30.1	2.78	30.1	2.90	30.1	3.09	30.0	3.03	29.9	2.98	29.7	2.90	29.3	2.86	28.9	2.80
	30.0	28.0	31.6	3.11	31.6	3.07	31.6	3.02	31.5	2.92	31.4	2.83	30.6	2.76	29.2	2.72	27.3	2.67
	35.0	32.0	33.1	3.11	33.1	3.00	33.1	2.84	32.8	2.76	32.5	2.68	31.0	2.62	29.1	2.58	26.6	2.53
	40.0	36.0	34.6	2.85	34.6	2.77	34.6	2.66	33.8	2.59	32.9	2.53	31.0	2.48	29.1	2.45	26.6	2.40
	45.0	41.0	36.0	2.59	35.8	2.55	35.4	2.48	34.1	2.43	32.9	2.38	31.0	2.34	29.1	2.31	26.6	2.26
	47.0	43.0	36.0	2.52	35.8	2.48	35.4	2.41	34.1	2.37	32.9	2.32	31.0	2.28	29.1	2.25	26.6	2.20
	50.0	46.0	36.0	2.43	35.8	2.39	35.4	2.32	34.1	2.28	32.9	2.23	31.0	2.20	29.1	2.16	26.6	2.12
55.0	51.0	36.0	2.28	35.8	2.24	35.4	2.18	34.1	2.14	32.9	2.10	31.0	2.06	29.1	2.03	26.6	1.99	
60.0	56.0	36.0	2.12	35.8	2.08	35.4	2.03	34.1	1.99	32.9	1.95	31.0	1.92	29.1	1.89	26.6	1.85	
110	-4.0	-4.4	21.1	2.00	21.1	2.09	21.1	2.21	21.0	2.32	20.9	2.43	20.9	2.55	20.9	2.67	20.9	2.82
	0.0	-0.4	22.3	2.14	22.3	2.23	22.3	2.35	22.2	2.46	22.1	2.57	22.1	2.68	22.1	2.80	22.1	2.96
	5.0	4.5	23.8	2.31	23.8	2.40	23.8	2.52	23.7	2.63	23.7	2.74	23.7	2.86	23.7	2.98	23.7	3.13
	10.0	9.0	25.3	2.49	25.3	2.57	25.3	2.69	25.2	2.80	25.2	2.91	25.2	3.03	25.2	3.15	25.2	3.31
	15.0	14.0	26.8	2.66	26.8	2.74	26.8	2.86	26.7	2.97	26.6	3.08	26.6	3.10	26.6	3.00	26.6	2.87
	20.0	19.0	28.4	2.83	28.4	2.91	28.4	3.04	28.3	3.04	28.2	3.04	27.5	2.95	26.3	2.85	24.7	2.73
	25.0	23.0	29.9	3.10	29.9	3.09	29.9	3.07	29.6	2.98	29.3	2.88	27.8	2.80	26.2	2.71	24.1	2.60
	30.0	28.0	31.4	3.07	31.4	3.00	31.4	2.88	30.5	2.80	29.5	2.73	27.8	2.65	26.2	2.57	24.1	2.47
	35.0	32.0	33.4	2.84	32.9	2.78	32.3	2.69	30.9	2.63	29.5	2.57	27.8	2.50	26.2	2.43	24.1	2.34
	40.0	36.0	35.3	2.61	34.2	2.56	32.5	2.50	31.0	2.46	29.5	2.42	27.8	2.36	26.2	2.29	24.1	2.21
	45.0	41.0	35.6	2.38	34.4	2.35	32.5	2.32	31.0	2.29	29.5	2.26	27.8	2.21	26.2	2.15	24.1	2.07
	47.0	43.0	35.6	2.31	34.4	2.29	32.5	2.26	31.0	2.23	29.5	2.20	27.8	2.15	26.2	2.09	24.1	2.02
	50.0	46.0	35.6	2.23	34.4	2.21	32.5	2.17	31.0	2.15	29.5	2.12	27.8	2.07	26.2	2.02	24.1	1.94
55.0	51.0	35.6	2.09	34.4	2.07	32.5	2.04	31.0	2.02	29.5	1.99	27.8	1.94	26.2	1.89	24.1	1.83	
60.0	56.0	35.6	1.95	34.4	1.93	32.5	1.90	31.0	1.88	29.5	1.85	27.8	1.81	26.2	1.76	24.1	1.70	

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).



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	-4.0	-4.4	21.0	2.13	21.0	2.21	21.0	2.34	20.9	2.42	20.8	2.51	20.8	2.68	20.8	2.78	20.8	2.91
	0.0	-0.4	22.2	2.27	22.1	2.35	22.0	2.47	22.0	2.56	22.0	2.65	22.0	2.82	22.0	2.92	22.0	3.05
	5.0	4.5	23.6	2.44	23.6	2.52	23.6	2.65	23.6	2.73	23.5	2.82	23.5	2.99	23.5	3.09	23.5	3.22
	10.0	9.0	25.3	2.61	25.2	2.69	25.1	2.82	25.1	2.91	25.1	2.99	24.8	3.09	24.1	3.04	23.3	2.97
	15.0	14.0	26.7	2.78	26.7	2.86	26.7	2.99	26.6	3.00	26.5	3.01	25.4	2.96	23.9	2.87	21.9	2.75
	20.0	19.0	28.8	2.99	28.7	3.04	28.6	3.11	27.8	2.98	27.0	2.85	25.4	2.79	23.9	2.70	21.9	2.59
	25.0	23.0	30.7	3.19	30.2	3.06	29.6	2.87	28.3	2.78	27.0	2.70	25.4	2.62	23.9	2.54	21.9	2.43
	30.0	28.0	32.1	2.98	31.1	2.87	29.7	2.70	28.3	2.62	27.0	2.54	25.4	2.45	23.9	2.38	21.9	2.28
	35.0	32.0	32.7	2.76	31.5	2.67	29.7	2.54	28.3	2.46	27.0	2.39	25.4	2.29	23.9	2.22	21.9	2.12
	40.0	36.0	32.7	2.54	31.5	2.47	29.7	2.37	28.3	2.30	27.0	2.23	25.4	2.12	23.9	2.05	21.9	1.96
	45.0	41.0	32.7	2.33	31.5	2.28	29.7	2.21	28.3	2.14	27.0	2.08	25.4	1.96	23.9	1.89	21.9	1.81
	47.0	43.0	32.7	2.26	31.5	2.22	29.7	2.15	28.3	2.08	27.0	2.02	25.4	1.90	23.9	1.84	21.9	1.76
	50.0	46.0	32.7	2.18	31.5	2.14	29.7	2.07	28.3	2.01	27.0	1.95	25.4	1.83	23.9	1.77	21.9	1.70
	55.0	51.0	32.7	2.05	31.5	2.01	29.7	1.94	28.3	1.88	27.0	1.83	25.4	1.72	23.9	1.67	21.9	1.59
60.0	56.0	32.7	1.90	31.5	1.86	29.7	1.81	28.3	1.75	27.0	1.70	25.4	1.60	23.9	1.55	21.9	1.48	
90	-4.0	-4.4	20.9	2.11	20.9	2.17	20.9	2.27	20.8	2.37	20.8	2.47	20.8	2.66	20.8	2.82	20.8	3.02
	0.0	-0.4	22.2	2.25	22.1	2.31	22.0	2.40	22.0	2.51	22.0	2.61	21.9	2.80	21.8	2.95	21.6	3.16
	5.0	4.5	23.6	2.42	23.6	2.48	23.6	2.58	23.5	2.68	23.5	2.78	22.9	2.90	22.0	2.89	20.8	2.88
	10.0	9.0	25.3	2.59	25.2	2.66	25.1	2.75	24.8	2.85	24.6	2.95	23.3	2.84	21.9	2.71	20.0	2.54
	15.0	14.0	26.7	2.76	26.7	2.82	26.7	2.92	25.7	2.88	24.7	2.85	23.3	2.69	21.9	2.57	20.0	2.41
	20.0	19.0	29.5	3.02	28.6	2.96	27.1	2.87	25.9	2.78	24.7	2.69	23.3	2.54	21.9	2.43	20.0	2.27
	25.0	23.0	29.9	2.84	28.8	2.78	27.1	2.70	25.9	2.61	24.7	2.53	23.3	2.39	21.9	2.28	20.0	2.14
	30.0	28.0	29.9	2.66	28.8	2.61	27.1	2.53	25.9	2.45	24.7	2.37	23.3	2.24	21.9	2.14	20.0	2.00
	35.0	32.0	29.9	2.48	28.8	2.43	27.1	2.36	25.9	2.28	24.7	2.21	23.3	2.10	21.9	2.00	20.0	1.86
	40.0	36.0	29.9	2.30	28.8	2.26	27.1	2.19	25.9	2.12	24.7	2.05	23.3	1.95	21.9	1.85	20.0	1.73
	45.0	41.0	29.9	2.13	28.8	2.08	27.1	2.02	25.9	1.96	24.7	1.90	23.3	1.80	21.9	1.71	20.0	1.60
	47.0	43.0	29.9	2.07	28.8	2.03	27.1	1.96	25.9	1.91	24.7	1.85	23.3	1.75	21.9	1.67	20.0	1.55
	50.0	46.0	29.9	1.99	28.8	1.95	27.1	1.89	25.9	1.84	24.7	1.78	23.3	1.69	21.9	1.61	20.0	1.50
	55.0	51.0	29.9	1.87	28.8	1.83	27.1	1.78	25.9	1.72	24.7	1.67	23.3	1.58	21.9	1.51	20.0	1.40
60.0	56.0	29.9	1.74	28.8	1.70	27.1	1.65	25.9	1.60	24.7	1.55	23.3	1.47	21.9	1.40	20.0	1.31	
80	-4.0	-4.4	20.8	1.87	20.8	1.93	20.8	2.01	20.7	2.13	20.7	2.25	20.4	2.49	19.7	2.61	18.7	2.77
	0.0	-0.4	22.0	2.01	22.0	2.07	22.0	2.15	21.9	2.27	21.7	2.39	20.8	2.58	19.5	2.60	17.9	2.62
	5.0	4.5	23.6	2.18	23.6	2.24	23.6	2.32	22.9	2.44	22.1	2.56	20.8	2.53	19.5	2.45	17.9	2.35
	10.0	9.0	25.9	2.36	25.3	2.41	24.3	2.49	23.2	2.53	22.1	2.57	20.8	2.40	19.5	2.33	17.9	2.23
	15.0	14.0	26.8	2.55	25.8	2.58	24.3	2.63	23.2	2.53	22.1	2.43	20.8	2.28	19.5	2.21	17.9	2.11
	20.0	19.0	26.8	2.59	25.8	2.54	24.3	2.47	23.2	2.38	22.1	2.29	20.8	2.15	19.5	2.08	17.9	1.99
	25.0	23.0	26.8	2.43	25.8	2.39	24.3	2.32	23.2	2.24	22.1	2.15	20.8	2.02	19.5	1.96	17.9	1.87
	30.0	28.0	26.8	2.27	25.8	2.23	24.3	2.17	23.2	2.09	22.1	2.01	20.8	1.90	19.5	1.83	17.9	1.75
	35.0	32.0	26.8	2.12	25.8	2.08	24.3	2.02	23.2	1.95	22.1	1.88	20.8	1.77	19.5	1.71	17.9	1.62
	40.0	36.0	26.8	1.96	25.8	1.92	24.3	1.87	23.2	1.80	22.1	1.74	20.8	1.65	19.5	1.59	17.9	1.50
	45.0	41.0	26.8	1.81	25.8	1.77	24.3	1.72	23.2	1.66	22.1	1.60	20.8	1.52	19.5	1.46	17.9	1.39
	47.0	43.0	26.8	1.76	25.8	1.73	24.3	1.68	23.2	1.62	22.1	1.56	20.8	1.48	19.5	1.42	17.9	1.35
	50.0	46.0	26.8	1.70	25.8	1.66	24.3	1.61	23.2	1.56	22.1	1.50	20.8	1.43	19.5	1.37	17.9	1.30
	55.0	51.0	26.8	1.59	25.8	1.56	24.3	1.52	23.2	1.46	22.1	1.41	20.8	1.34	19.5	1.29	17.9	1.22
60.0	56.0	26.8	1.48	25.8	1.45	24.3	1.41	23.2	1.36	22.1	1.31	20.8	1.25	19.5	1.20	17.9	1.13	

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



ARUN024GSS4

24,000 Btu/h 208-230V Heat Pump Units

MULTI V S Outdoor Unit Engineering Manual

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
70	-4.0	-4.4	20.4	1.80	20.4	1.89	20.4	2.01	19.6	2.16	18.8	2.31	17.7	2.50	16.7	2.55	15.4	2.63
	0.0	-0.4	21.8	1.94	21.4	2.02	20.7	2.15	19.7	2.31	18.8	2.47	17.7	2.48	16.7	2.44	15.4	2.38
	5.0	4.5	22.7	2.11	21.9	2.20	20.7	2.32	19.7	2.39	18.8	2.46	17.7	2.35	16.7	2.30	15.4	2.24
	10.0	9.0	22.7	2.29	21.9	2.37	20.7	2.49	19.7	2.41	18.8	2.33	17.7	2.22	16.7	2.17	15.4	2.11
	15.0	14.0	22.7	2.57	21.9	2.50	20.7	2.39	19.7	2.29	18.8	2.19	17.7	2.09	16.7	2.04	15.4	1.97
	20.0	19.0	22.7	2.41	21.9	2.34	20.7	2.24	19.7	2.14	18.8	2.05	17.7	1.95	16.7	1.90	15.4	1.83
	25.0	23.0	22.7	2.24	21.9	2.18	20.7	2.09	19.7	2.00	18.8	1.91	17.7	1.82	16.7	1.76	15.4	1.69
	30.0	28.0	22.7	2.08	21.9	2.02	20.7	1.93	19.7	1.86	18.8	1.78	17.7	1.69	16.7	1.63	15.4	1.55
	35.0	32.0	22.7	1.91	21.9	1.86	20.7	1.78	19.7	1.71	18.8	1.64	17.7	1.56	16.7	1.49	15.4	1.41
	40.0	36.0	22.7	1.75	21.9	1.70	20.7	1.63	19.7	1.57	18.8	1.50	17.7	1.42	16.7	1.36	15.4	1.28
	45.0	41.0	22.7	1.59	21.9	1.54	20.7	1.48	19.7	1.43	18.8	1.37	17.7	1.30	16.7	1.23	15.4	1.14
	47.0	43.0	22.7	1.54	21.9	1.50	20.7	1.44	19.7	1.39	18.8	1.33	17.7	1.26	16.7	1.20	15.4	1.11
50.0	46.0	22.7	1.49	21.9	1.45	20.7	1.39	19.7	1.34	18.8	1.28	17.7	1.21	16.7	1.15	15.4	1.07	
55.0	51.0	22.7	1.40	21.9	1.36	20.7	1.30	19.7	1.25	18.8	1.20	17.7	1.14	16.7	1.08	15.4	1.00	
60.0	56.0	22.7	1.30	21.9	1.26	20.7	1.21	19.7	1.17	18.8	1.12	17.7	1.06	16.7	1.01	15.4	0.93	
60	-4.0	-4.4	19.3	1.83	18.7	1.91	17.8	2.02	16.9	2.18	16.1	2.34	15.2	2.37	14.3	2.31	13.2	2.23
	0.0	-0.4	19.4	1.96	18.8	2.04	17.8	2.16	16.9	2.26	16.1	2.37	15.2	2.28	14.3	2.20	13.2	2.10
	5.0	4.5	19.4	2.14	18.8	2.22	17.8	2.33	16.9	2.28	16.1	2.23	15.2	2.15	14.3	2.07	13.2	1.97
	10.0	9.0	19.4	2.42	18.8	2.39	17.8	2.33	16.9	2.22	16.1	2.10	15.2	2.02	14.3	1.94	13.2	1.84
	15.0	14.0	19.4	2.35	18.8	2.29	17.8	2.19	16.9	2.08	16.1	1.97	15.2	1.89	14.3	1.81	13.2	1.72
	20.0	19.0	19.4	2.20	18.8	2.13	17.8	2.03	16.9	1.93	16.1	1.83	15.2	1.75	14.3	1.68	13.2	1.58
	25.0	23.0	19.4	2.04	18.8	1.98	17.8	1.88	16.9	1.79	16.1	1.70	15.2	1.62	14.3	1.55	13.2	1.45
	30.0	28.0	19.4	1.89	18.8	1.82	17.8	1.73	16.9	1.65	16.1	1.57	15.2	1.49	14.3	1.42	13.2	1.33
	35.0	32.0	19.4	1.73	18.8	1.67	17.8	1.58	16.9	1.51	16.1	1.44	15.2	1.36	14.3	1.29	13.2	1.20
	40.0	36.0	19.4	1.58	18.8	1.52	17.8	1.43	16.9	1.37	16.1	1.30	15.2	1.22	14.3	1.16	13.2	1.07
	45.0	41.0	19.4	1.43	18.8	1.37	17.8	1.28	16.9	1.23	16.1	1.18	15.2	1.10	14.3	1.03	13.2	0.94
	47.0	43.0	19.4	1.39	18.8	1.33	17.8	1.25	16.9	1.20	16.1	1.14	15.2	1.07	14.3	1.00	13.2	0.92
50.0	46.0	19.4	1.34	18.8	1.28	17.8	1.20	16.9	1.15	16.1	1.10	15.2	1.03	14.3	0.97	13.2	0.88	
55.0	51.0	19.4	1.26	18.8	1.21	17.8	1.13	16.9	1.08	16.1	1.03	15.2	0.97	14.3	0.91	13.2	0.83	
60.0	56.0	19.4	1.17	18.8	1.12	17.8	1.05	16.9	1.01	16.1	0.96	15.2	0.90	14.3	0.84	13.2	0.77	
50	-4.0	-4.4	16.3	1.68	15.7	1.80	14.8	1.99	14.1	2.08	13.4	2.18	12.6	2.07	11.9	1.96	10.9	1.83
	0.0	-0.4	16.3	1.82	15.7	1.94	14.8	2.13	14.1	2.11	13.4	2.10	12.6	1.97	11.9	1.87	10.9	1.74
	5.0	4.5	16.3	2.11	15.7	2.11	14.8	2.11	14.1	2.04	13.4	1.97	12.6	1.85	11.9	1.76	10.9	1.63
	10.0	9.0	16.3	2.21	15.7	2.12	14.8	1.98	14.1	1.91	13.4	1.84	12.6	1.73	11.9	1.64	10.9	1.53
	15.0	14.0	16.3	2.06	15.7	1.97	14.8	1.84	14.1	1.78	13.4	1.72	12.6	1.61	11.9	1.53	10.9	1.42
	20.0	19.0	16.3	1.91	15.7	1.83	14.8	1.71	14.1	1.65	13.4	1.58	12.6	1.49	11.9	1.41	10.9	1.31
	25.0	23.0	16.3	1.75	15.7	1.68	14.8	1.57	14.1	1.51	13.4	1.46	12.6	1.37	11.9	1.30	10.9	1.20
	30.0	28.0	16.3	1.60	15.7	1.54	14.8	1.43	14.1	1.38	13.4	1.33	12.6	1.25	11.9	1.18	10.9	1.09
	35.0	32.0	16.3	1.45	15.7	1.39	14.8	1.30	14.1	1.25	13.4	1.20	12.6	1.13	11.9	1.07	10.9	0.99
	40.0	36.0	16.3	1.30	15.7	1.24	14.8	1.16	14.1	1.12	13.4	1.07	12.6	1.01	11.9	0.95	10.9	0.88
	45.0	41.0	16.3	1.15	15.7	1.11	14.8	1.03	14.1	0.99	13.4	0.95	12.6	0.89	11.9	0.84	10.9	0.77
	47.0	43.0	16.3	1.12	15.7	1.08	14.8	1.01	14.1	0.96	13.4	0.92	12.6	0.87	11.9	0.82	10.9	0.75
50.0	46.0	16.3	1.08	15.7	1.04	14.8	0.97	14.1	0.93	13.4	0.89	12.6	0.84	11.9	0.79	10.9	0.73	
55.0	51.0	16.3	1.01	15.7	0.97	14.8	0.91	14.1	0.87	13.4	0.83	12.6	0.79	11.9	0.74	10.9	0.68	
60.0	56.0	16.3	0.94	15.7	0.90	14.8	0.85	14.1	0.81	13.4	0.77	12.6	0.73	11.9	0.69	10.9	0.63	

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).



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	-4.0	-4.4	34.0	2.54	34.0	2.73	34.0	3.03	33.9	3.28	33.8	3.53	33.8	3.78	33.8	3.90	33.8	4.07
	0.0	-0.4	35.9	2.76	35.9	2.95	35.9	3.25	35.8	3.50	35.7	3.75	35.7	4.00	35.7	4.12	35.7	4.29
	5.0	4.5	38.4	3.03	38.4	3.23	38.4	3.53	38.3	3.77	38.1	4.02	38.1	4.28	38.1	4.40	38.1	4.56
	10.0	9.0	40.8	3.31	40.8	3.50	40.8	3.80	40.7	4.05	40.6	4.29	40.6	4.55	40.6	4.67	40.6	4.84
	15.0	14.0	43.2	3.57	43.2	3.77	43.2	4.07	43.1	4.32	43.0	4.56	43.0	4.82	43.0	4.94	43.0	5.11
	20.0	19.0	45.7	3.86	45.7	4.05	45.7	4.35	45.6	4.60	45.5	4.84	45.5	4.93	45.5	4.83	45.5	4.69
	25.0	23.0	48.2	4.13	48.2	4.33	48.2	4.62	48.1	4.77	47.9	4.91	47.9	4.70	47.9	4.60	47.9	4.46
	30.0	28.0	50.7	4.40	50.7	4.60	50.7	4.90	50.5	4.78	50.3	4.67	50.1	4.47	49.4	4.37	48.6	4.23
	35.0	32.0	53.1	4.92	53.1	4.88	53.1	4.81	52.9	4.62	52.8	4.42	51.7	4.23	49.6	4.13	46.7	4.00
	40.0	36.0	55.6	4.95	55.6	4.76	55.6	4.49	55.4	4.33	55.2	4.17	52.4	4.00	49.3	3.90	45.2	3.77
	45.0	41.0	57.4	4.40	57.4	4.31	57.4	4.17	56.6	4.05	55.8	3.93	52.4	3.77	49.3	3.67	45.2	3.54
	47.0	43.0	57.4	4.28	57.4	4.19	57.4	4.06	56.6	3.94	55.8	3.82	52.4	3.67	49.3	3.57	45.2	3.45
	50.0	46.0	57.4	4.12	57.4	4.04	57.4	3.91	56.6	3.79	55.8	3.68	52.4	3.53	49.3	3.44	45.2	3.32
55.0	51.0	57.4	3.87	57.4	3.79	57.4	3.67	56.6	3.56	55.8	3.46	52.4	3.31	49.3	3.23	45.2	3.12	
60.0	56.0	57.4	3.60	57.4	3.52	57.4	3.41	56.6	3.31	55.8	3.21	52.4	3.08	49.3	3.00	45.2	2.90	
120	-4.0	-4.4	33.7	2.83	33.7	3.03	33.7	3.33	33.6	3.43	33.5	3.53	33.5	3.91	33.5	3.99	33.5	4.10
	0.0	-0.4	35.7	3.05	35.7	3.25	35.7	3.55	35.6	3.65	35.4	3.75	35.4	4.13	35.4	4.21	35.4	4.32
	5.0	4.5	38.1	3.33	38.1	3.53	38.1	3.82	38.0	3.92	37.9	4.02	37.9	4.40	37.9	4.49	37.9	4.60
	10.0	9.0	40.5	3.60	40.5	3.80	40.5	4.10	40.4	4.20	40.3	4.29	40.3	4.68	40.3	4.76	40.3	4.87
	15.0	14.0	42.9	3.87	42.9	4.07	42.9	4.37	42.8	4.47	42.7	4.56	42.7	4.95	42.7	5.03	42.7	5.14
	20.0	19.0	45.4	4.15	45.4	4.35	45.4	4.65	45.3	4.81	45.1	4.98	45.1	4.83	45.1	4.77	45.1	4.68
	25.0	23.0	47.9	4.43	47.9	4.62	47.9	4.92	47.7	4.83	47.6	4.74	47.3	4.62	46.7	4.55	46.0	4.47
	30.0	28.0	50.3	4.96	50.3	4.90	50.3	4.81	50.1	4.66	50.0	4.51	48.8	4.40	46.5	4.33	43.5	4.25
	35.0	32.0	52.7	4.96	52.7	4.79	52.7	4.52	52.2	4.40	51.7	4.27	49.3	4.18	46.3	4.12	42.3	4.04
	40.0	36.0	55.2	4.54	55.2	4.42	55.2	4.24	53.8	4.14	52.3	4.04	49.3	3.96	46.3	3.90	42.3	3.82
	45.0	41.0	57.4	4.13	57.0	4.06	56.4	3.95	54.3	3.87	52.3	3.80	49.3	3.74	46.3	3.68	42.3	3.61
	47.0	43.0	57.4	4.02	57.0	3.95	56.4	3.85	54.3	3.77	52.3	3.70	49.3	3.64	46.3	3.58	42.3	3.51
	50.0	46.0	57.4	3.88	57.0	3.81	56.4	3.70	54.3	3.63	52.3	3.56	49.3	3.50	46.3	3.45	42.3	3.38
55.0	51.0	57.4	3.64	57.0	3.57	56.4	3.48	54.3	3.41	52.3	3.34	49.3	3.29	46.3	3.24	42.3	3.17	
60.0	56.0	57.4	3.38	57.0	3.32	56.4	3.23	54.3	3.17	52.3	3.11	49.3	3.06	46.3	3.01	42.3	2.95	
110	-4.0	-4.4	33.5	3.20	33.5	3.33	33.5	3.53	33.4	3.70	33.3	3.87	33.3	4.06	33.3	4.25	33.3	4.50
	0.0	-0.4	35.5	3.42	35.5	3.55	35.5	3.75	35.4	3.92	35.3	4.09	35.3	4.28	35.3	4.47	35.3	4.72
	5.0	4.5	37.9	3.69	37.9	3.82	37.9	4.02	37.8	4.19	37.7	4.37	37.7	4.55	37.7	4.74	37.7	5.00
	10.0	9.0	40.3	3.97	40.3	4.10	40.3	4.29	40.2	4.47	40.1	4.64	40.1	4.83	40.1	5.02	40.1	5.27
	15.0	14.0	42.7	4.23	42.7	4.37	42.7	4.56	42.6	4.74	42.4	4.91	42.4	4.94	42.4	4.78	42.3	4.57
	20.0	19.0	45.2	4.51	45.2	4.65	45.2	4.84	45.0	4.85	44.9	4.85	43.8	4.70	41.9	4.55	39.3	4.36
	25.0	23.0	47.6	4.94	47.6	4.92	47.6	4.89	47.1	4.74	46.7	4.60	44.2	4.46	41.7	4.33	38.4	4.15
	30.0	28.0	50.0	4.90	50.0	4.78	50.0	4.59	48.5	4.47	47.0	4.35	44.2	4.23	41.7	4.10	38.4	3.94
	35.0	32.0	53.1	4.53	52.4	4.43	51.4	4.29	49.2	4.20	47.0	4.10	44.2	3.99	41.7	3.88	38.4	3.73
	40.0	36.0	56.2	4.15	54.4	4.09	51.8	3.99	49.4	3.92	47.0	3.86	44.2	3.76	41.7	3.65	38.4	3.52
	45.0	41.0	56.8	3.79	54.8	3.75	51.8	3.70	49.4	3.65	47.0	3.61	44.2	3.52	41.7	3.43	38.4	3.31
	47.0	43.0	56.8	3.69	54.8	3.65	51.8	3.60	49.4	3.56	47.0	3.51	44.2	3.43	41.7	3.34	38.4	3.22
	50.0	46.0	56.8	3.55	54.8	3.52	51.8	3.47	49.4	3.43	47.0	3.38	44.2	3.30	41.7	3.22	38.4	3.10
55.0	51.0	56.8	3.34	54.8	3.30	51.8	3.25	49.4	3.21	47.0	3.18	44.2	3.10	41.7	3.02	38.4	2.91	
60.0	56.0	56.8	3.10	54.8	3.07	51.8	3.02	49.4	2.99	47.0	2.95	44.2	2.88	41.7	2.81	38.4	2.71	

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



ARUN038GSS4

38,000 Btu/h 208-230V Heat Pump Units

MULTI V S Outdoor Unit Engineering Manual

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	-4.0	-4.4	33.4	3.39	33.4	3.53	33.4	3.72	33.3	3.86	33.2	4.00	33.2	4.27	33.2	4.43	33.2	4.64
	0.0	-0.4	35.3	3.61	35.2	3.75	35.1	3.94	35.1	4.08	35.0	4.22	35.0	4.49	35.0	4.65	35.0	4.86
	5.0	4.5	37.6	3.89	37.6	4.02	37.6	4.22	37.5	4.36	37.4	4.49	37.4	4.77	37.4	4.92	37.4	5.13
	10.0	9.0	40.2	4.16	40.1	4.29	40.0	4.49	39.9	4.63	39.9	4.77	39.4	4.93	38.4	4.85	37.1	4.74
	15.0	14.0	42.5	4.43	42.5	4.56	42.5	4.76	42.4	4.78	42.3	4.80	40.5	4.72	38.1	4.58	34.9	4.38
	20.0	19.0	45.9	4.77	45.7	4.84	45.5	4.95	44.2	4.75	43.0	4.55	40.5	4.45	38.1	4.31	34.9	4.13
	25.0	23.0	48.8	5.09	48.1	4.88	47.1	4.57	45.0	4.44	43.0	4.30	40.5	4.18	38.1	4.05	34.9	3.88
	30.0	28.0	51.2	4.74	49.6	4.57	47.3	4.31	45.1	4.18	43.0	4.05	40.5	3.91	38.1	3.79	34.9	3.63
	35.0	32.0	52.0	4.40	50.1	4.26	47.3	4.04	45.1	3.92	43.0	3.80	40.5	3.65	38.1	3.53	34.9	3.38
	40.0	36.0	52.0	4.05	50.1	3.94	47.3	3.78	45.1	3.67	43.0	3.55	40.5	3.38	38.1	3.27	34.9	3.13
	45.0	41.0	52.0	3.71	50.1	3.63	47.3	3.52	45.1	3.41	43.0	3.31	40.5	3.12	38.1	3.02	34.9	2.88
	47.0	43.0	52.0	3.61	50.1	3.54	47.3	3.43	45.1	3.32	43.0	3.22	40.5	3.04	38.1	2.94	34.9	2.81
	50.0	46.0	52.0	3.48	50.1	3.41	47.3	3.30	45.1	3.20	43.0	3.10	40.5	2.92	38.1	2.83	34.9	2.70
	55.0	51.0	52.0	3.26	50.1	3.20	47.3	3.10	45.1	3.00	43.0	2.91	40.5	2.74	38.1	2.65	34.9	2.54
60.0	56.0	52.0	3.04	50.1	2.97	47.3	2.88	45.1	2.79	43.0	2.71	40.5	2.55	38.1	2.47	34.9	2.36	
90	-4.0	-4.4	33.3	3.36	33.3	3.46	33.3	3.61	33.2	3.77	33.1	3.94	33.1	4.24	33.1	4.49	33.1	4.82
	0.0	-0.4	35.3	3.58	35.2	3.68	35.1	3.83	35.0	3.99	35.0	4.16	34.9	4.46	34.7	4.71	34.4	5.04
	5.0	4.5	37.6	3.86	37.6	3.96	37.6	4.11	37.5	4.27	37.4	4.43	36.5	4.62	35.0	4.61	33.1	4.59
	10.0	9.0	40.2	4.13	40.1	4.23	40.0	4.38	39.6	4.54	39.2	4.71	37.1	4.53	34.8	4.32	31.8	4.05
	15.0	14.0	42.5	4.40	42.5	4.50	42.5	4.65	40.9	4.60	39.4	4.54	37.1	4.29	34.8	4.10	31.8	3.84
	20.0	19.0	47.0	4.81	45.5	4.72	43.2	4.57	41.3	4.43	39.4	4.28	37.1	4.05	34.8	3.87	31.8	3.62
	25.0	23.0	47.7	4.53	45.9	4.44	43.2	4.30	41.3	4.16	39.4	4.03	37.1	3.81	34.8	3.64	31.8	3.40
	30.0	28.0	47.7	4.24	45.9	4.16	43.2	4.03	41.3	3.90	39.4	3.78	37.1	3.58	34.8	3.41	31.8	3.19
	35.0	32.0	47.7	3.95	45.9	3.88	43.2	3.76	41.3	3.64	39.4	3.53	37.1	3.34	34.8	3.18	31.8	2.97
	40.0	36.0	47.7	3.67	45.9	3.60	43.2	3.48	41.3	3.38	39.4	3.27	37.1	3.10	34.8	2.95	31.8	2.76
	45.0	41.0	47.7	3.39	45.9	3.32	43.2	3.22	41.3	3.12	39.4	3.02	37.1	2.87	34.8	2.73	31.8	2.54
	47.0	43.0	47.7	3.30	45.9	3.23	43.2	3.13	41.3	3.04	39.4	2.94	37.1	2.79	34.8	2.66	31.8	2.48
	50.0	46.0	47.7	3.18	45.9	3.11	43.2	3.02	41.3	2.93	39.4	2.84	37.1	2.69	34.8	2.56	31.8	2.39
	55.0	51.0	47.7	2.98	45.9	2.92	43.2	2.83	41.3	2.75	39.4	2.66	37.1	2.53	34.8	2.40	31.8	2.24
60.0	56.0	47.7	2.77	45.9	2.72	43.2	2.63	41.3	2.55	39.4	2.48	37.1	2.35	34.8	2.23	31.8	2.08	
80	-4.0	-4.4	33.1	2.99	33.1	3.07	33.1	3.20	33.0	3.39	32.9	3.59	32.4	3.97	31.3	4.16	29.9	4.41
	0.0	-0.4	35.1	3.21	35.1	3.29	35.1	3.42	34.9	3.61	34.6	3.81	33.1	4.12	31.1	4.15	28.5	4.18
	5.0	4.5	37.6	3.48	37.6	3.57	37.6	3.70	36.4	3.89	35.3	4.08	33.1	4.03	31.1	3.91	28.5	3.74
	10.0	9.0	41.3	3.76	40.3	3.84	38.7	3.97	37.0	4.03	35.3	4.09	33.1	3.83	31.1	3.71	28.5	3.55
	15.0	14.0	42.7	4.06	41.1	4.11	38.7	4.19	37.0	4.03	35.3	3.88	33.1	3.63	31.1	3.52	28.5	3.36
	20.0	19.0	42.7	4.12	41.1	4.05	38.7	3.94	37.0	3.80	35.3	3.65	33.1	3.43	31.1	3.32	28.5	3.17
	25.0	23.0	42.7	3.87	41.1	3.80	38.7	3.70	37.0	3.57	35.3	3.43	33.1	3.23	31.1	3.12	28.5	2.97
	30.0	28.0	42.7	3.62	41.1	3.56	38.7	3.46	37.0	3.34	35.3	3.21	33.1	3.03	31.1	2.92	28.5	2.78
	35.0	32.0	42.7	3.38	41.1	3.31	38.7	3.22	37.0	3.11	35.3	2.99	33.1	2.82	31.1	2.72	28.5	2.59
	40.0	36.0	42.7	3.13	41.1	3.07	38.7	2.98	37.0	2.88	35.3	2.77	33.1	2.62	31.1	2.53	28.5	2.40
	45.0	41.0	42.7	2.88	41.1	2.83	38.7	2.75	37.0	2.65	35.3	2.55	33.1	2.43	31.1	2.33	28.5	2.21
	47.0	43.0	42.7	2.81	41.1	2.75	38.7	2.67	37.0	2.58	35.3	2.49	33.1	2.36	31.1	2.27	28.5	2.15
	50.0	46.0	42.7	2.70	41.1	2.65	38.7	2.57	37.0	2.48	35.3	2.39	33.1	2.27	31.1	2.19	28.5	2.07
	55.0	51.0	42.7	2.54	41.1	2.49	38.7	2.42	37.0	2.33	35.3	2.25	33.1	2.14	31.1	2.05	28.5	1.94
60.0	56.0	42.7	2.36	41.1	2.31	38.7	2.25	37.0	2.17	35.3	2.09	33.1	1.99	31.1	1.91	28.5	1.81	

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).



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
70	-4.0	-4.4	32.4	2.87	32.4	3.01	32.4	3.20	31.2	3.45	29.9	3.69	28.2	3.98	26.6	4.07	24.5	4.19
	0.0	-0.4	34.8	3.09	34.0	3.23	32.9	3.42	31.4	3.68	29.9	3.94	28.2	3.95	26.6	3.89	24.5	3.80
	5.0	4.5	36.1	3.37	34.8	3.50	32.9	3.70	31.4	3.81	29.9	3.93	28.2	3.74	26.6	3.67	24.5	3.58
	10.0	9.0	36.1	3.64	34.8	3.78	32.9	3.97	31.4	3.84	29.9	3.71	28.2	3.53	26.6	3.46	24.5	3.36
	15.0	14.0	36.1	4.10	34.8	3.99	32.9	3.81	31.4	3.65	29.9	3.49	28.2	3.33	26.6	3.25	24.5	3.14
	20.0	19.0	36.1	3.83	34.8	3.73	32.9	3.57	31.4	3.42	29.9	3.27	28.2	3.11	26.6	3.03	24.5	2.92
	25.0	23.0	36.1	3.57	34.8	3.47	32.9	3.33	31.4	3.19	29.9	3.05	28.2	2.90	26.6	2.81	24.5	2.69
	30.0	28.0	36.1	3.31	34.8	3.22	32.9	3.08	31.4	2.96	29.9	2.83	28.2	2.69	26.6	2.60	24.5	2.47
	35.0	32.0	36.1	3.05	34.8	2.96	32.9	2.84	31.4	2.73	29.9	2.61	28.2	2.48	26.6	2.38	24.5	2.25
	40.0	36.0	36.1	2.78	34.8	2.71	32.9	2.60	31.4	2.50	29.9	2.39	28.2	2.27	26.6	2.17	24.5	2.03
	45.0	41.0	36.1	2.53	34.8	2.46	32.9	2.36	31.4	2.27	29.9	2.18	28.2	2.07	26.6	1.96	24.5	1.82
	47.0	43.0	36.1	2.46	34.8	2.40	32.9	2.30	31.4	2.21	29.9	2.12	28.2	2.01	26.6	1.91	24.5	1.77
	50.0	46.0	36.1	2.37	34.8	2.31	32.9	2.22	31.4	2.13	29.9	2.04	28.2	1.94	26.6	1.84	24.5	1.71
55.0	51.0	36.1	2.22	34.8	2.17	32.9	2.08	31.4	2.00	29.9	1.92	28.2	1.82	26.6	1.73	24.5	1.60	
60.0	56.0	36.1	2.07	34.8	2.01	32.9	1.93	31.4	1.86	29.9	1.78	28.2	1.69	26.6	1.60	24.5	1.49	
60	-4.0	-4.4	30.7	2.91	29.8	3.04	28.3	3.22	27.0	3.48	25.6	3.73	24.1	3.78	22.8	3.69	21.0	3.56
	0.0	-0.4	31.0	3.13	29.9	3.26	28.3	3.44	27.0	3.61	25.6	3.77	24.1	3.64	22.8	3.51	21.0	3.35
	5.0	4.5	31.0	3.41	29.9	3.53	28.3	3.72	27.0	3.64	25.6	3.56	24.1	3.43	22.8	3.30	21.0	3.14
	10.0	9.0	31.0	3.86	29.9	3.81	28.3	3.72	27.0	3.53	25.6	3.35	24.1	3.22	22.8	3.10	21.0	2.94
	15.0	14.0	31.0	3.75	29.9	3.65	28.3	3.48	27.0	3.31	25.6	3.14	24.1	3.01	22.8	2.89	21.0	2.73
	20.0	19.0	31.0	3.50	29.9	3.40	28.3	3.24	27.0	3.08	25.6	2.92	24.1	2.79	22.8	2.68	21.0	2.52
	25.0	23.0	31.0	3.26	29.9	3.15	28.3	3.00	27.0	2.86	25.6	2.71	24.1	2.58	22.8	2.47	21.0	2.32
	30.0	28.0	31.0	3.01	29.9	2.91	28.3	2.76	27.0	2.63	25.6	2.50	24.1	2.37	22.8	2.26	21.0	2.11
	35.0	32.0	31.0	2.76	29.9	2.66	28.3	2.52	27.0	2.40	25.6	2.29	24.1	2.16	22.8	2.05	21.0	1.91
	40.0	36.0	31.0	2.52	29.9	2.42	28.3	2.28	27.0	2.18	25.6	2.08	24.1	1.95	22.8	1.84	21.0	1.70
	45.0	41.0	31.0	2.28	29.9	2.18	28.3	2.05	27.0	1.96	25.6	1.87	24.1	1.75	22.8	1.64	21.0	1.50
	47.0	43.0	31.0	2.22	29.9	2.13	28.3	1.99	27.0	1.91	25.6	1.82	24.1	1.70	22.8	1.60	21.0	1.46
	50.0	46.0	31.0	2.13	29.9	2.05	28.3	1.92	27.0	1.84	25.6	1.76	24.1	1.64	22.8	1.54	21.0	1.41
55.0	51.0	31.0	2.00	29.9	1.92	28.3	1.80	27.0	1.72	25.6	1.65	24.1	1.54	22.8	1.45	21.0	1.32	
60.0	56.0	31.0	1.86	29.9	1.79	28.3	1.67	27.0	1.60	25.6	1.53	24.1	1.43	22.8	1.35	21.0	1.23	
50	-4.0	-4.4	25.9	2.67	24.9	2.87	23.5	3.17	22.5	3.32	21.4	3.48	20.1	3.29	19.0	3.13	17.4	2.92
	0.0	-0.4	25.9	2.89	24.9	3.09	23.5	3.39	22.5	3.37	21.4	3.35	20.1	3.14	19.0	2.99	17.4	2.78
	5.0	4.5	25.9	3.37	24.9	3.37	23.5	3.36	22.5	3.25	21.4	3.14	20.1	2.95	19.0	2.80	17.4	2.61
	10.0	9.0	25.9	3.52	24.9	3.37	23.5	3.15	22.5	3.04	21.4	2.94	20.1	2.76	19.0	2.62	17.4	2.43
	15.0	14.0	25.9	3.28	24.9	3.15	23.5	2.94	22.5	2.84	21.4	2.74	20.1	2.57	19.0	2.44	17.4	2.26
	20.0	19.0	25.9	3.04	24.9	2.91	23.5	2.72	22.5	2.62	21.4	2.53	20.1	2.37	19.0	2.25	17.4	2.09
	25.0	23.0	25.9	2.80	24.9	2.68	23.5	2.50	22.5	2.41	21.4	2.32	20.1	2.18	19.0	2.07	17.4	1.92
	30.0	28.0	25.9	2.55	24.9	2.45	23.5	2.29	22.5	2.20	21.4	2.12	20.1	1.99	19.0	1.89	17.4	1.74
	35.0	32.0	25.9	2.31	24.9	2.22	23.5	2.07	22.5	1.99	21.4	1.91	20.1	1.80	19.0	1.70	17.4	1.57
	40.0	36.0	25.9	2.07	24.9	1.98	23.5	1.86	22.5	1.78	21.4	1.71	20.1	1.61	19.0	1.52	17.4	1.40
	45.0	41.0	25.9	1.84	24.9	1.76	23.5	1.65	22.5	1.58	21.4	1.51	20.1	1.42	19.0	1.34	17.4	1.23
	47.0	43.0	25.9	1.79	24.9	1.72	23.5	1.61	22.5	1.54	21.4	1.47	20.1	1.39	19.0	1.31	17.4	1.20
	50.0	46.0	25.9	1.72	24.9	1.65	23.5	1.55	22.5	1.48	21.4	1.42	20.1	1.34	19.0	1.26	17.4	1.16
55.0	51.0	25.9	1.62	24.9	1.55	23.5	1.45	22.5	1.39	21.4	1.33	20.1	1.25	19.0	1.18	17.4	1.09	
60.0	56.0	25.9	1.50	24.9	1.44	23.5	1.35	22.5	1.29	21.4	1.24	20.1	1.17	19.0	1.10	17.4	1.01	

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



ARUN048GSS4

48,000 Btu/h 208-230V Heat Pump Units

MULTI V S Outdoor Unit Engineering Manual

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	-4.0	-4.4	42.7	3.31	42.7	3.57	42.7	3.95	42.5	4.28	42.4	4.60	42.4	4.93	42.4	5.09	42.4	5.31
	0.0	-0.4	45.1	3.59	45.1	3.85	45.1	4.24	45.0	4.56	44.8	4.88	44.8	5.22	44.8	5.38	44.8	5.59
	5.0	4.5	48.2	3.95	48.2	4.21	48.2	4.60	48.0	4.92	47.9	5.24	47.9	5.58	47.9	5.74	47.9	5.95
	10.0	9.0	51.3	4.31	51.3	4.57	51.3	4.96	51.1	5.28	51.0	5.60	51.0	5.94	51.0	6.10	51.0	6.31
	15.0	14.0	54.3	4.66	54.3	4.92	54.3	5.31	54.1	5.63	54.0	5.95	54.0	6.29	54.0	6.45	54.0	6.66
	20.0	19.0	57.4	5.03	57.4	5.29	57.4	5.67	57.3	6.00	57.1	6.32	57.1	6.63	57.1	6.80	57.1	7.01
	25.0	23.0	60.5	5.39	60.5	5.64	60.5	6.03	60.3	6.22	60.2	6.41	60.2	6.73	60.2	6.90	60.2	7.12
	30.0	28.0	63.6	5.75	63.6	6.00	63.6	6.39	63.4	6.24	63.2	6.09	62.9	5.83	62.1	5.69	61.1	5.52
	35.0	32.0	66.7	6.42	66.7	6.36	66.7	6.28	66.5	6.02	66.3	5.77	65.0	5.52	62.3	5.39	58.6	5.22
	40.0	36.0	69.8	6.45	69.8	6.21	69.8	5.85	69.6	5.65	69.3	5.44	65.8	5.22	61.9	5.09	56.7	4.92
	45.0	41.0	72.1	5.74	72.1	5.62	72.1	5.43	71.1	5.28	70.1	5.12	65.8	4.91	61.9	4.79	56.7	4.62
	47.0	43.0	72.1	5.58	72.1	5.47	72.1	5.29	71.1	5.14	70.1	4.99	65.8	4.78	61.9	4.66	56.7	4.50
	50.0	46.0	72.1	5.38	72.1	5.26	72.1	5.09	71.1	4.95	70.1	4.80	65.8	4.61	61.9	4.49	56.7	4.33
55.0	51.0	72.1	5.05	72.1	4.94	72.1	4.78	71.1	4.65	70.1	4.51	65.8	4.32	61.9	4.21	56.7	4.07	
60.0	56.0	72.1	4.69	72.1	4.60	72.1	4.45	71.1	4.32	70.1	4.19	65.8	4.02	61.9	3.92	56.7	3.78	
120	-4.0	-4.4	42.3	3.69	42.3	3.95	42.3	4.34	42.2	4.47	42.1	4.60	42.1	5.10	42.1	5.21	42.1	5.35
	0.0	-0.4	44.8	3.98	44.8	4.24	44.8	4.63	44.7	4.76	44.5	4.88	44.5	5.39	44.5	5.49	44.5	5.64
	5.0	4.5	47.9	4.34	47.9	4.60	47.9	4.99	47.7	5.11	47.6	5.24	47.6	5.75	47.6	5.85	47.6	6.00
	10.0	9.0	50.9	4.70	50.9	4.96	50.9	5.34	50.8	5.47	50.6	5.60	50.6	6.10	50.6	6.21	50.6	6.35
	15.0	14.0	53.9	5.05	53.9	5.31	53.9	5.70	53.8	5.82	53.6	5.95	53.6	6.46	53.6	6.56	53.6	6.71
	20.0	19.0	57.0	5.42	57.0	5.67	57.0	6.06	56.9	6.28	56.7	6.50	56.7	6.31	56.7	6.22	56.7	6.11
	25.0	23.0	60.1	5.77	60.1	6.03	60.1	6.42	59.9	6.30	59.7	6.19	59.4	6.02	58.7	5.94	57.7	5.83
	30.0	28.0	63.2	6.47	63.2	6.39	63.2	6.28	63.0	6.08	62.8	5.88	61.2	5.73	58.4	5.65	54.6	5.55
	35.0	32.0	66.2	6.48	66.2	6.25	66.2	5.90	65.6	5.74	64.9	5.57	61.9	5.45	58.1	5.37	53.1	5.27
	40.0	36.0	69.3	5.93	69.3	5.77	69.3	5.53	67.5	5.39	65.7	5.26	61.9	5.16	58.1	5.09	53.1	4.99
	45.0	41.0	72.0	5.39	71.5	5.30	70.8	5.15	68.2	5.05	65.7	4.95	61.9	4.87	58.1	4.80	53.1	4.70
	47.0	43.0	72.0	5.25	71.5	5.16	70.8	5.02	68.2	4.92	65.7	4.82	61.9	4.74	58.1	4.67	53.1	4.58
	50.0	46.0	72.0	5.05	71.5	4.97	70.8	4.83	68.2	4.74	65.7	4.64	61.9	4.57	58.1	4.50	53.1	4.41
55.0	51.0	72.0	4.74	71.5	4.66	70.8	4.53	68.2	4.45	65.7	4.36	61.9	4.29	58.1	4.22	53.1	4.14	
60.0	56.0	72.0	4.41	71.5	4.33	70.8	4.22	68.2	4.14	65.7	4.05	61.9	3.99	58.1	3.93	53.1	3.85	
110	-4.0	-4.4	42.1	4.17	42.1	4.34	42.1	4.60	42.0	4.82	41.9	5.05	41.9	5.29	41.9	5.54	41.9	5.87
	0.0	-0.4	44.6	4.45	44.6	4.63	44.6	4.88	44.4	5.11	44.3	5.34	44.3	5.58	44.3	5.83	44.3	6.16
	5.0	4.5	47.6	4.81	47.6	4.99	47.6	5.24	47.4	5.47	47.3	5.70	47.3	5.94	47.3	6.19	47.3	6.52
	10.0	9.0	50.6	5.17	50.6	5.34	50.6	5.60	50.5	5.83	50.3	6.05	50.3	6.30	50.3	6.55	50.3	6.88
	15.0	14.0	53.6	5.52	53.6	5.70	53.6	5.95	53.5	6.18	53.3	6.40	53.3	6.44	53.2	6.23	53.2	5.96
	20.0	19.0	56.7	5.89	56.7	6.06	56.7	6.32	56.6	6.32	56.4	6.32	55.0	6.13	52.6	5.94	49.3	5.68
	25.0	23.0	59.8	6.45	59.8	6.42	59.8	6.38	59.2	6.19	58.6	6.00	55.5	5.82	52.4	5.64	48.2	5.41
	30.0	28.0	62.8	6.39	62.8	6.23	62.8	5.99	60.9	5.83	59.0	5.68	55.5	5.51	52.4	5.35	48.2	5.14
	35.0	32.0	66.7	5.90	65.9	5.78	64.6	5.60	61.8	5.47	59.0	5.35	55.5	5.21	52.4	5.06	48.2	4.86
	40.0	36.0	70.6	5.42	68.4	5.33	65.0	5.21	62.0	5.12	59.0	5.03	55.5	4.90	52.4	4.77	48.2	4.59
	45.0	41.0	71.3	4.94	68.8	4.89	65.0	4.82	62.0	4.76	59.0	4.71	55.5	4.59	52.4	4.47	48.2	4.31
	47.0	43.0	71.3	4.81	68.8	4.76	65.0	4.69	62.0	4.64	59.0	4.58	55.5	4.47	52.4	4.35	48.2	4.20
	50.0	46.0	71.3	4.63	68.8	4.59	65.0	4.52	62.0	4.47	59.0	4.41	55.5	4.31	52.4	4.19	48.2	4.04
55.0	51.0	71.3	4.35	68.8	4.31	65.0	4.24	62.0	4.19	59.0	4.14	55.5	4.04	52.4	3.94	48.2	3.80	
60.0	56.0	71.3	4.05	68.8	4.01	65.0	3.95	62.0	3.90	59.0	3.85	55.5	3.76	52.4	3.66	48.2	3.53	

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).



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	-4.0	-4.4	41.9	4.43	41.9	4.60	41.9	4.86	41.8	5.04	41.7	5.22	41.7	5.57	41.7	5.78	41.7	6.05
	0.0	-0.4	44.3	4.71	44.2	4.88	44.1	5.14	44.0	5.32	44.0	5.50	44.0	5.86	44.0	6.06	44.0	6.33
	5.0	4.5	47.3	5.07	47.3	5.24	47.3	5.50	47.1	5.68	47.0	5.86	47.0	6.22	47.0	6.42	47.0	6.69
	10.0	9.0	50.5	5.43	50.4	5.60	50.2	5.86	50.1	6.04	50.1	6.22	49.5	6.43	48.3	6.32	46.6	6.18
	15.0	14.0	53.3	5.78	53.3	5.95	53.3	6.21	53.2	6.24	53.1	6.27	50.8	6.16	47.9	5.97	43.9	5.72
	20.0	19.0	57.6	6.22	57.4	6.32	57.1	6.46	55.6	6.20	54.0	5.93	50.8	5.80	47.9	5.62	43.9	5.39
	25.0	23.0	61.3	6.64	60.5	6.37	59.1	5.96	56.6	5.79	54.0	5.61	50.8	5.45	47.9	5.28	43.9	5.06
	30.0	28.0	64.2	6.19	62.3	5.96	59.4	5.62	56.7	5.45	54.0	5.29	50.8	5.10	47.9	4.95	43.9	4.73
	35.0	32.0	65.3	5.73	62.9	5.55	59.4	5.27	56.7	5.12	54.0	4.96	50.8	4.76	47.9	4.61	43.9	4.41
	40.0	36.0	65.3	5.28	62.9	5.14	59.4	4.93	56.7	4.78	54.0	4.64	50.8	4.41	47.9	4.27	43.9	4.08
	45.0	41.0	65.3	4.84	62.9	4.74	59.4	4.59	56.7	4.45	54.0	4.31	50.8	4.07	47.9	3.94	43.9	3.76
	47.0	43.0	65.3	4.71	62.9	4.61	59.4	4.47	56.7	4.33	54.0	4.20	50.8	3.96	47.9	3.83	43.9	3.66
	50.0	46.0	65.3	4.54	62.9	4.44	59.4	4.30	56.7	4.17	54.0	4.05	50.8	3.81	47.9	3.69	43.9	3.52
	55.0	51.0	65.3	4.26	62.9	4.17	59.4	4.04	56.7	3.92	54.0	3.80	50.8	3.58	47.9	3.46	43.9	3.31
60.0	56.0	65.3	3.96	62.9	3.88	59.4	3.76	56.7	3.64	54.0	3.53	50.8	3.33	47.9	3.22	43.9	3.08	
90	-4.0	-4.4	41.8	4.39	41.8	4.52	41.8	4.71	41.6	4.92	41.5	5.14	41.5	5.53	41.5	5.85	41.5	6.28
	0.0	-0.4	44.3	4.67	44.2	4.80	44.1	5.00	44.0	5.21	43.9	5.42	43.8	5.82	43.5	6.14	43.2	6.57
	5.0	4.5	47.3	5.03	47.3	5.16	47.3	5.36	47.1	5.57	46.9	5.78	45.8	6.02	44.0	6.01	41.5	5.99
	10.0	9.0	50.5	5.39	50.4	5.52	50.2	5.71	49.7	5.93	49.2	6.14	46.5	5.90	43.7	5.64	39.9	5.29
	15.0	14.0	53.3	5.74	53.3	5.87	53.3	6.07	51.4	5.99	49.5	5.92	46.5	5.60	43.7	5.35	39.9	5.01
	20.0	19.0	59.0	6.28	57.1	6.15	54.2	5.96	51.8	5.77	49.5	5.59	46.5	5.28	43.7	5.04	39.9	4.72
	25.0	23.0	59.9	5.90	57.6	5.79	54.2	5.61	51.8	5.43	49.5	5.26	46.5	4.98	43.7	4.75	39.9	4.44
	30.0	28.0	59.9	5.53	57.6	5.42	54.2	5.25	51.8	5.09	49.5	4.93	46.5	4.67	43.7	4.45	39.9	4.16
	35.0	32.0	59.9	5.16	57.6	5.05	54.2	4.90	51.8	4.75	49.5	4.60	46.5	4.36	43.7	4.15	39.9	3.88
	40.0	36.0	59.9	4.79	57.6	4.69	54.2	4.54	51.8	4.41	49.5	4.27	46.5	4.05	43.7	3.85	39.9	3.60
	45.0	41.0	59.9	4.42	57.6	4.33	54.2	4.20	51.8	4.07	49.5	3.94	46.5	3.74	43.7	3.56	39.9	3.32
	47.0	43.0	59.9	4.30	57.6	4.22	54.2	4.09	51.8	3.96	49.5	3.84	46.5	3.64	43.7	3.47	39.9	3.23
	50.0	46.0	59.9	4.14	57.6	4.06	54.2	3.93	51.8	3.82	49.5	3.70	46.5	3.51	43.7	3.34	39.9	3.11
	55.0	51.0	59.9	3.89	57.6	3.81	54.2	3.69	51.8	3.58	49.5	3.47	46.5	3.29	43.7	3.13	39.9	2.92
60.0	56.0	59.9	3.62	57.6	3.54	54.2	3.43	51.8	3.33	49.5	3.23	46.5	3.06	43.7	2.91	39.9	2.72	
80	-4.0	-4.4	41.6	3.90	41.6	4.01	41.6	4.18	41.5	4.43	41.3	4.68	40.7	5.18	39.3	5.43	37.5	5.75
	0.0	-0.4	44.1	4.18	44.1	4.30	44.1	4.46	43.8	4.72	43.4	4.97	41.5	5.37	39.1	5.41	35.8	5.46
	5.0	4.5	47.2	4.54	47.2	4.65	47.2	4.82	45.8	5.07	44.3	5.33	41.5	5.26	39.1	5.10	35.8	4.88
	10.0	9.0	51.8	4.90	50.6	5.01	48.6	5.18	46.5	5.26	44.3	5.34	41.5	4.99	39.1	4.84	35.8	4.63
	15.0	14.0	53.6	5.30	51.6	5.36	48.6	5.46	46.5	5.26	44.3	5.06	41.5	4.74	39.1	4.59	35.8	4.39
	20.0	19.0	53.6	5.38	51.6	5.28	48.6	5.14	46.5	4.95	44.3	4.76	41.5	4.47	39.1	4.33	35.8	4.13
	25.0	23.0	53.6	5.05	51.6	4.96	48.6	4.83	46.5	4.65	44.3	4.48	41.5	4.21	39.1	4.07	35.8	3.88
	30.0	28.0	53.6	4.73	51.6	4.64	48.6	4.51	46.5	4.35	44.3	4.19	41.5	3.95	39.1	3.81	35.8	3.63
	35.0	32.0	53.6	4.40	51.6	4.32	48.6	4.20	46.5	4.05	44.3	3.90	41.5	3.68	39.1	3.55	35.8	3.38
	40.0	36.0	53.6	4.08	51.6	4.00	48.6	3.89	46.5	3.75	44.3	3.61	41.5	3.42	39.1	3.30	35.8	3.13
	45.0	41.0	53.6	3.76	51.6	3.69	48.6	3.58	46.5	3.46	44.3	3.33	41.5	3.16	39.1	3.04	35.8	2.88
	47.0	43.0	53.6	3.66	51.6	3.59	48.6	3.49	46.5	3.36	44.3	3.24	41.5	3.08	39.1	2.96	35.8	2.81
	50.0	46.0	53.6	3.52	51.6	3.46	48.6	3.36	46.5	3.24	44.3	3.12	41.5	2.97	39.1	2.85	35.8	2.70
	55.0	51.0	53.6	3.31	51.6	3.25	48.6	3.15	46.5	3.04	44.3	2.93	41.5	2.78	39.1	2.68	35.8	2.54
60.0	56.0	53.6	3.08	51.6	3.02	48.6	2.93	46.5	2.83	44.3	2.73	41.5	2.59	39.1	2.49	35.8	2.36	

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



ARUN048GSS4

48,000 Btu/h 208-230V Heat Pump Units

MULTI V S Outdoor Unit Engineering Manual

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
70	-4.0	-4.4	40.7	3.75	40.7	3.92	40.7	4.18	39.1	4.50	37.5	4.81	35.5	5.19	33.4	5.31	30.7	5.47
	0.0	-0.4	43.7	4.03	42.7	4.21	41.3	4.47	39.4	4.80	37.5	5.14	35.5	5.15	33.4	5.07	30.7	4.95
	5.0	4.5	45.4	4.39	43.7	4.57	41.3	4.82	39.4	4.97	37.5	5.12	35.5	4.88	33.4	4.79	30.7	4.67
	10.0	9.0	45.4	4.75	43.8	4.92	41.3	5.18	39.4	5.01	37.5	4.83	35.5	4.61	33.4	4.51	30.7	4.38
	15.0	14.0	45.4	5.35	43.8	5.20	41.3	4.97	39.4	4.76	37.5	4.55	35.5	4.34	33.4	4.23	30.7	4.10
	20.0	19.0	45.4	5.00	43.8	4.86	41.3	4.65	39.4	4.46	37.5	4.26	35.5	4.06	33.4	3.95	30.7	3.80
	25.0	23.0	45.4	4.66	43.8	4.53	41.3	4.34	39.4	4.16	37.5	3.98	35.5	3.78	33.4	3.67	30.7	3.51
	30.0	28.0	45.4	4.32	43.8	4.20	41.3	4.02	39.4	3.86	37.5	3.69	35.5	3.51	33.4	3.39	30.7	3.23
	35.0	32.0	45.4	3.97	43.8	3.87	41.3	3.71	39.4	3.56	37.5	3.41	35.5	3.24	33.4	3.11	30.7	2.94
	40.0	36.0	45.4	3.63	43.8	3.53	41.3	3.39	39.4	3.26	37.5	3.12	35.5	2.96	33.4	2.83	30.7	2.65
	45.0	41.0	45.4	3.30	43.8	3.21	41.3	3.08	39.4	2.96	37.5	2.84	35.5	2.69	33.4	2.56	30.7	2.37
	47.0	43.0	45.4	3.21	43.8	3.13	41.3	3.00	39.4	2.88	37.5	2.77	35.5	2.62	33.4	2.49	30.7	2.31
	50.0	46.0	45.4	3.09	43.8	3.01	41.3	2.89	39.4	2.78	37.5	2.67	35.5	2.53	33.4	2.40	30.7	2.23
	55.0	51.0	45.4	2.90	43.8	2.83	41.3	2.71	39.4	2.61	37.5	2.50	35.5	2.37	33.4	2.25	30.7	2.09
60.0	56.0	45.4	2.70	43.8	2.63	41.3	2.52	39.4	2.43	37.5	2.33	35.5	2.20	33.4	2.09	30.7	1.94	
60	-4.0	-4.4	38.6	3.80	37.4	3.96	35.5	4.21	33.9	4.54	32.2	4.86	30.3	4.93	28.7	4.81	26.4	4.64
	0.0	-0.4	38.9	4.08	37.5	4.25	35.5	4.49	33.9	4.71	32.2	4.92	30.3	4.74	28.7	4.58	26.4	4.37
	5.0	4.5	38.9	4.44	37.5	4.61	35.5	4.85	33.9	4.75	32.2	4.64	30.3	4.47	28.7	4.31	26.4	4.10
	10.0	9.0	38.9	5.04	37.5	4.96	35.5	4.85	33.9	4.61	32.2	4.37	30.3	4.19	28.7	4.04	26.4	3.83
	15.0	14.0	38.9	4.90	37.5	4.76	35.5	4.55	33.9	4.32	32.2	4.10	30.3	3.92	28.7	3.77	26.4	3.57
	20.0	19.0	38.9	4.57	37.5	4.43	35.5	4.23	33.9	4.02	32.2	3.81	30.3	3.64	28.7	3.49	26.4	3.29
	25.0	23.0	38.9	4.25	37.5	4.11	35.5	3.91	33.9	3.73	32.2	3.54	30.3	3.37	28.7	3.22	26.4	3.02
	30.0	28.0	38.9	3.92	37.5	3.79	35.5	3.60	33.9	3.43	32.2	3.26	30.3	3.10	28.7	2.95	26.4	2.76
	35.0	32.0	38.9	3.60	37.5	3.48	35.5	3.28	33.9	3.14	32.2	2.99	30.3	2.82	28.7	2.68	26.4	2.49
	40.0	36.0	38.9	3.28	37.5	3.16	35.5	2.97	33.9	2.84	32.2	2.71	30.3	2.55	28.7	2.41	26.4	2.22
	45.0	41.0	38.9	2.97	37.5	2.85	35.5	2.67	33.9	2.56	32.2	2.45	30.3	2.28	28.7	2.14	26.4	1.96
	47.0	43.0	38.9	2.89	37.5	2.77	35.5	2.60	33.9	2.49	32.2	2.38	30.3	2.22	28.7	2.09	26.4	1.91
	50.0	46.0	38.9	2.78	37.5	2.67	35.5	2.50	33.9	2.40	32.2	2.29	30.3	2.14	28.7	2.01	26.4	1.84
	55.0	51.0	38.9	2.61	37.5	2.51	35.5	2.35	33.9	2.25	32.2	2.15	30.3	2.01	28.7	1.89	26.4	1.73
60.0	56.0	38.9	2.43	37.5	2.33	35.5	2.18	33.9	2.09	32.2	2.00	30.3	1.87	28.7	1.75	26.4	1.61	
50	-4.0	-4.4	32.5	3.49	31.3	3.75	29.5	4.13	28.2	4.33	26.9	4.53	25.3	4.30	23.8	4.09	21.8	3.80
	0.0	-0.4	32.5	3.78	31.3	4.03	29.5	4.42	28.2	4.39	26.9	4.37	25.3	4.10	23.8	3.89	21.8	3.62
	5.0	4.5	32.5	4.39	31.3	4.39	29.5	4.39	28.2	4.24	26.9	4.10	25.3	3.85	23.8	3.65	21.8	3.40
	10.0	9.0	32.5	4.59	31.3	4.40	29.5	4.11	28.2	3.97	26.9	3.83	25.3	3.60	23.8	3.42	21.8	3.17
	15.0	14.0	32.5	4.28	31.3	4.10	29.5	3.83	28.2	3.70	26.9	3.57	25.3	3.35	23.8	3.18	21.8	2.95
	20.0	19.0	32.5	3.96	31.3	3.80	29.5	3.55	28.2	3.42	26.9	3.30	25.3	3.10	23.8	2.94	21.8	2.72
	25.0	23.0	32.5	3.65	31.3	3.49	29.5	3.26	28.2	3.15	26.9	3.03	25.3	2.85	23.8	2.70	21.8	2.50
	30.0	28.0	32.5	3.33	31.3	3.19	29.5	2.98	28.2	2.87	26.9	2.76	25.3	2.60	23.8	2.46	21.8	2.27
	35.0	32.0	32.5	3.01	31.3	2.89	29.5	2.70	28.2	2.60	26.9	2.49	25.3	2.35	23.8	2.22	21.8	2.05
	40.0	36.0	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	1.98	21.8	1.82
	45.0	41.0	32.5	2.40	31.3	2.30	29.5	2.15	28.2	2.06	26.9	1.97	25.3	1.86	23.8	1.75	21.8	1.61
	47.0	43.0	32.5	2.33	31.3	2.24	29.5	2.09	28.2	2.01	26.9	1.92	25.3	1.81	23.8	1.71	21.8	1.57
	50.0	46.0	32.5	2.25	31.3	2.15	29.5	2.02	28.2	1.93	26.9	1.85	25.3	1.74	23.8	1.64	21.8	1.51
	55.0	51.0	32.5	2.11	31.3	2.02	29.5	1.89	28.2	1.81	26.9	1.73	25.3	1.64	23.8	1.54	21.8	1.42
60.0	56.0	32.5	1.96	31.3	1.88	29.5	1.76	28.2	1.69	26.9	1.61	25.3	1.52	23.8	1.43	21.8	1.32	

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).



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	-4.0	-4.4	46.6	4.10	46.6	4.42	46.6	4.90	46.5	5.30	46.3	5.70	46.3	6.12	46.3	6.32	46.3	6.58
	0.0	-0.4	49.3	4.46	49.3	4.78	49.3	5.26	49.1	5.66	49.0	6.06	49.0	6.47	49.0	6.67	49.0	6.94
	5.0	4.5	52.7	4.90	52.7	5.22	52.7	5.70	52.5	6.10	52.3	6.50	52.3	6.92	52.3	7.12	52.3	7.38
	10.0	9.0	56.0	5.35	56.0	5.67	56.0	6.15	55.9	6.55	55.7	6.95	55.7	7.36	55.7	7.56	55.7	7.83
	15.0	14.0	59.3	5.78	59.3	6.10	59.3	6.58	59.1	6.98	59.0	7.38	59.0	7.80	59.0	8.00	59.0	8.27
	20.0	19.0	62.8	6.24	62.8	6.56	62.8	7.04	62.6	7.44	62.4	7.84	62.4	7.98	62.4	7.81	62.4	7.59
	25.0	23.0	66.1	6.68	66.1	7.00	66.1	7.48	65.9	7.71	65.7	7.95	65.7	7.60	65.7	7.44	65.7	7.22
	30.0	28.0	69.5	7.13	69.5	7.45	69.5	7.93	69.3	7.74	69.1	7.55	68.7	7.23	67.8	7.06	66.7	6.85
	35.0	32.0	72.9	7.96	72.9	7.89	72.9	7.79	72.6	7.47	72.4	7.15	71.0	6.85	68.0	6.69	64.1	6.48
	40.0	36.0	76.2	8.00	76.2	7.71	76.2	7.26	76.0	7.01	75.8	6.75	71.9	6.47	67.7	6.32	62.0	6.11
	45.0	41.0	78.8	7.12	78.8	6.97	78.8	6.74	77.7	6.55	76.6	6.35	71.9	6.09	67.7	5.94	62.0	5.73
	47.0	43.0	78.8	6.93	78.8	6.78	78.8	6.56	77.7	6.37	76.6	6.19	71.9	5.93	67.7	5.78	62.0	5.58
	50.0	46.0	78.8	6.67	78.8	6.53	78.8	6.32	77.7	6.14	76.6	5.96	71.9	5.71	67.7	5.57	62.0	5.38
55.0	51.0	78.8	6.26	78.8	6.13	78.8	5.93	77.7	5.76	76.6	5.59	71.9	5.36	67.7	5.23	62.0	5.05	
60.0	56.0	78.8	5.82	78.8	5.70	78.8	5.52	77.7	5.36	76.6	5.20	71.9	4.99	67.7	4.86	62.0	4.69	
120	-4.0	-4.4	46.3	4.58	46.3	4.90	46.3	5.38	46.1	5.54	46.0	5.70	46.0	6.33	46.0	6.46	46.0	6.64
	0.0	-0.4	48.9	4.94	48.9	5.26	48.9	5.74	48.8	5.90	48.6	6.06	48.6	6.68	48.6	6.82	48.6	6.99
	5.0	4.5	52.3	5.38	52.3	5.70	52.3	6.18	52.1	6.34	52.0	6.50	52.0	7.13	52.0	7.26	52.0	7.44
	10.0	9.0	55.6	5.83	55.6	6.15	55.6	6.63	55.5	6.79	55.3	6.95	55.3	7.57	55.3	7.70	55.3	7.88
	15.0	14.0	58.9	6.26	58.9	6.58	58.9	7.06	58.7	7.22	58.5	7.38	58.5	8.01	58.5	8.14	58.5	8.32
	20.0	19.0	62.3	6.72	62.3	7.04	62.3	7.52	62.1	7.79	61.9	8.06	61.9	7.82	61.9	7.72	61.9	7.58
	25.0	23.0	65.7	7.16	65.7	7.48	65.7	7.96	65.5	7.82	65.3	7.68	64.9	7.47	64.1	7.37	63.1	7.23
	30.0	28.0	69.0	8.02	69.0	7.93	69.0	7.79	68.8	7.54	68.6	7.29	66.9	7.11	63.8	7.01	59.6	6.88
	35.0	32.0	72.4	8.03	72.4	7.75	72.4	7.32	71.7	7.12	71.0	6.91	67.6	6.76	63.5	6.66	58.0	6.53
	40.0	36.0	75.7	7.35	75.7	7.15	75.7	6.85	73.8	6.69	71.8	6.53	67.6	6.40	63.5	6.31	58.0	6.19
	45.0	41.0	78.7	6.69	78.1	6.57	77.3	6.39	74.6	6.27	71.8	6.15	67.6	6.05	63.5	5.95	58.0	5.83
	47.0	43.0	78.7	6.51	78.1	6.40	77.3	6.22	74.6	6.10	71.8	5.98	67.6	5.89	63.5	5.80	58.0	5.68
	50.0	46.0	78.7	6.27	78.1	6.16	77.3	5.99	74.6	5.88	71.8	5.76	67.6	5.67	63.5	5.58	58.0	5.47
55.0	51.0	78.7	5.89	78.1	5.78	77.3	5.62	74.6	5.52	71.8	5.41	67.6	5.32	63.5	5.24	58.0	5.13	
60.0	56.0	78.7	5.47	78.1	5.38	77.3	5.23	74.6	5.13	71.8	5.03	67.6	4.95	63.5	4.87	58.0	4.77	
110	-4.0	-4.4	46.0	5.17	46.0	5.38	46.0	5.70	45.9	5.98	45.7	6.26	45.7	6.57	45.7	6.87	45.7	7.28
	0.0	-0.4	48.7	5.53	48.7	5.74	48.7	6.06	48.5	6.34	48.4	6.62	48.4	6.92	48.4	7.23	48.4	7.64
	5.0	4.5	52.0	5.97	52.0	6.18	52.0	6.50	51.8	6.78	51.7	7.06	51.7	7.37	51.7	7.67	51.7	8.08
	10.0	9.0	55.3	6.42	55.3	6.63	55.3	6.95	55.2	7.23	55.0	7.51	55.0	7.81	55.0	8.12	55.0	8.53
	15.0	14.0	58.6	6.85	58.6	7.06	58.6	7.38	58.4	7.66	58.2	7.95	58.2	7.99	58.2	7.73	58.1	7.40
	20.0	19.0	62.0	7.30	62.0	7.52	62.0	7.84	61.8	7.84	61.6	7.84	60.1	7.60	57.5	7.36	53.9	7.05
	25.0	23.0	65.3	8.00	65.3	7.96	65.3	7.91	64.7	7.68	64.1	7.44	60.7	7.22	57.3	7.00	52.7	6.71
	30.0	28.0	68.6	7.93	68.6	7.73	68.6	7.43	66.6	7.23	64.5	7.04	60.7	6.84	57.3	6.64	52.7	6.37
	35.0	32.0	72.9	7.32	72.0	7.17	70.5	6.94	67.5	6.79	64.5	6.64	60.7	6.46	57.3	6.27	52.7	6.03
	40.0	36.0	77.2	6.72	74.7	6.62	71.0	6.46	67.7	6.35	64.5	6.24	60.7	6.08	57.3	5.91	52.7	5.69
	45.0	41.0	77.9	6.13	75.1	6.07	71.0	5.98	67.7	5.91	64.5	5.84	60.7	5.70	57.3	5.55	52.7	5.35
	47.0	43.0	77.9	5.97	75.1	5.91	71.0	5.82	67.7	5.75	64.5	5.69	60.7	5.55	57.3	5.40	52.7	5.21
	50.0	46.0	77.9	5.75	75.1	5.69	71.0	5.61	67.7	5.54	64.5	5.48	60.7	5.34	57.3	5.20	52.7	5.02
55.0	51.0	77.9	5.40	75.1	5.34	71.0	5.26	67.7	5.20	64.5	5.14	60.7	5.01	57.3	4.88	52.7	4.71	
60.0	56.0	77.9	5.02	75.1	4.97	71.0	4.89	67.7	4.84	64.5	4.78	60.7	4.66	57.3	4.54	52.7	4.38	

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



ARUN053GSS4

53,000 Btu/h 208-230V Heat Pump Units

MULTI V S Outdoor Unit Engineering Manual

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	-4.0	-4.4	45.8	5.49	45.8	5.70	45.8	6.02	45.7	6.25	45.5	6.47	45.5	6.91	45.5	7.16	45.5	7.50
	0.0	-0.4	48.4	5.85	48.3	6.06	48.2	6.38	48.1	6.60	48.0	6.83	48.0	7.27	48.0	7.52	48.0	7.86
	5.0	4.5	51.6	6.29	51.6	6.50	51.6	6.82	51.5	7.05	51.3	7.27	51.3	7.71	51.3	7.96	51.3	8.30
	10.0	9.0	55.2	6.74	55.0	6.95	54.8	7.27	54.8	7.49	54.8	7.72	54.1	7.98	52.8	7.84	50.9	7.67
	15.0	14.0	58.3	7.17	58.3	7.38	58.3	7.70	58.1	7.74	58.0	7.77	55.5	7.64	52.3	7.40	47.9	7.09
	20.0	19.0	63.0	7.72	62.7	7.84	62.4	8.02	60.7	7.69	59.0	7.36	55.5	7.19	52.3	6.97	47.9	6.68
	25.0	23.0	67.0	8.24	66.0	7.90	64.6	7.40	61.8	7.18	59.0	6.96	55.5	6.76	52.3	6.55	47.9	6.28
	30.0	28.0	70.2	7.68	68.1	7.39	64.9	6.97	61.9	6.76	59.0	6.56	55.5	6.33	52.3	6.13	47.9	5.87
	35.0	32.0	71.4	7.11	68.8	6.89	64.9	6.54	61.9	6.35	59.0	6.15	55.5	5.90	52.3	5.71	47.9	5.47
	40.0	36.0	71.4	6.55	68.8	6.38	64.9	6.12	61.9	5.93	59.0	5.75	55.5	5.47	52.3	5.29	47.9	5.06
	45.0	41.0	71.4	6.00	68.8	5.88	64.9	5.69	61.9	5.52	59.0	5.35	55.5	5.04	52.3	4.88	47.9	4.66
	47.0	43.0	71.4	5.84	68.8	5.72	64.9	5.54	61.9	5.38	59.0	5.21	55.5	4.91	52.3	4.75	47.9	4.54
	50.0	46.0	71.4	5.63	68.8	5.51	64.9	5.34	61.9	5.18	59.0	5.02	55.5	4.73	52.3	4.58	47.9	4.37
	55.0	51.0	71.4	5.28	68.8	5.17	64.9	5.01	61.9	4.86	59.0	4.71	55.5	4.44	52.3	4.30	47.9	4.10
60.0	56.0	71.4	4.91	68.8	4.81	64.9	4.66	61.9	4.52	59.0	4.38	55.5	4.13	52.3	3.99	47.9	3.82	
90	-4.0	-4.4	45.6	5.44	45.6	5.60	45.6	5.84	45.5	6.11	45.4	6.37	45.4	6.86	45.4	7.26	45.4	7.80
	0.0	-0.4	48.4	5.80	48.3	5.96	48.2	6.20	48.1	6.46	48.0	6.73	47.9	7.22	47.6	7.62	47.2	8.15
	5.0	4.5	51.6	6.24	51.6	6.40	51.6	6.64	51.4	6.91	51.3	7.17	50.0	7.47	48.0	7.45	45.4	7.43
	10.0	9.0	55.2	6.69	55.0	6.85	54.8	7.09	54.3	7.35	53.8	7.62	50.9	7.32	47.8	7.00	43.6	6.56
	15.0	14.0	58.3	7.12	58.3	7.28	58.3	7.52	56.2	7.44	54.0	7.35	50.9	6.95	47.8	6.63	43.6	6.22
	20.0	19.0	64.5	7.79	62.4	7.63	59.2	7.39	56.6	7.16	54.0	6.93	50.9	6.56	47.8	6.26	43.6	5.86
	25.0	23.0	65.4	7.32	63.0	7.18	59.2	6.96	56.6	6.74	54.0	6.52	50.9	6.17	47.8	5.89	43.6	5.51
	30.0	28.0	65.4	6.86	63.0	6.72	59.2	6.52	56.6	6.31	54.0	6.11	50.9	5.79	47.8	5.52	43.6	5.16
	35.0	32.0	65.4	6.40	63.0	6.27	59.2	6.08	56.6	5.89	54.0	5.70	50.9	5.40	47.8	5.15	43.6	4.81
	40.0	36.0	65.4	5.94	63.0	5.82	59.2	5.64	56.6	5.47	54.0	5.30	50.9	5.02	47.8	4.78	43.6	4.46
	45.0	41.0	65.4	5.48	63.0	5.37	59.2	5.21	56.6	5.05	54.0	4.89	50.9	4.64	47.8	4.42	43.6	4.12
	47.0	43.0	65.4	5.34	63.0	5.23	59.2	5.07	56.6	4.92	54.0	4.76	50.9	4.52	47.8	4.30	43.6	4.01
	50.0	46.0	65.4	5.14	63.0	5.04	59.2	4.88	56.6	4.73	54.0	4.59	50.9	4.35	47.8	4.14	43.6	3.86
	55.0	51.0	65.4	4.82	63.0	4.73	59.2	4.58	56.6	4.44	54.0	4.31	50.9	4.09	47.8	3.89	43.6	3.62
60.0	56.0	65.4	4.49	63.0	4.40	59.2	4.26	56.6	4.13	54.0	4.00	50.9	3.80	47.8	3.61	43.6	3.37	
80	-4.0	-4.4	45.5	4.83	45.5	4.97	45.5	5.18	45.3	5.49	45.2	5.81	44.5	6.43	43.0	6.73	41.0	7.14
	0.0	-0.4	48.2	5.19	48.2	5.33	48.2	5.54	47.8	5.85	47.5	6.16	45.4	6.66	42.7	6.71	39.1	6.77
	5.0	4.5	51.6	5.63	51.6	5.77	51.6	5.98	50.0	6.29	48.4	6.61	45.4	6.52	42.7	6.32	39.1	6.06
	10.0	9.0	56.6	6.08	55.2	6.22	53.1	6.43	50.8	6.52	48.4	6.62	45.4	6.20	42.7	6.00	39.1	5.75
	15.0	14.0	58.5	6.57	56.4	6.65	53.1	6.77	50.8	6.52	48.4	6.27	45.4	5.88	42.7	5.69	39.1	5.44
	20.0	19.0	58.5	6.67	56.4	6.55	53.1	6.38	50.8	6.14	48.4	5.91	45.4	5.55	42.7	5.37	39.1	5.12
	25.0	23.0	58.5	6.27	56.4	6.16	53.1	5.99	50.8	5.77	48.4	5.55	45.4	5.22	42.7	5.05	39.1	4.81
	30.0	28.0	58.5	5.86	56.4	5.76	53.1	5.60	50.8	5.40	48.4	5.20	45.4	4.90	42.7	4.73	39.1	4.50
	35.0	32.0	58.5	5.46	56.4	5.36	53.1	5.21	50.8	5.03	48.4	4.84	45.4	4.57	42.7	4.41	39.1	4.19
	40.0	36.0	58.5	5.06	56.4	4.96	53.1	4.82	50.8	4.65	48.4	4.48	45.4	4.25	42.7	4.09	39.1	3.88
	45.0	41.0	58.5	4.66	56.4	4.58	53.1	4.44	50.8	4.29	48.4	4.13	45.4	3.93	42.7	3.78	39.1	3.57
	47.0	43.0	58.5	4.54	56.4	4.45	53.1	4.32	50.8	4.17	48.4	4.02	45.4	3.82	42.7	3.68	39.1	3.48
	50.0	46.0	58.5	4.37	56.4	4.29	53.1	4.16	50.8	4.02	48.4	3.87	45.4	3.68	42.7	3.54	39.1	3.35
	55.0	51.0	58.5	4.10	56.4	4.03	53.1	3.91	50.8	3.77	48.4	3.64	45.4	3.45	42.7	3.32	39.1	3.15
60.0	56.0	58.5	3.82	56.4	3.74	53.1	3.64	50.8	3.51	48.4	3.38	45.4	3.21	42.7	3.09	39.1	2.93	

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).



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
70	-4.0	-4.4	44.5	4.65	44.5	4.86	44.5	5.18	42.8	5.58	41.0	5.97	38.8	6.44	36.5	6.59	33.6	6.78
	0.0	-0.4	47.7	5.01	46.7	5.22	45.1	5.54	43.1	5.96	41.0	6.37	38.8	6.39	36.5	6.29	33.6	6.15
	5.0	4.5	49.6	5.45	47.8	5.66	45.1	5.98	43.1	6.17	41.0	6.35	38.8	6.05	36.5	5.94	33.6	5.79
	10.0	9.0	49.6	5.89	47.8	6.11	45.1	6.43	43.1	6.21	41.0	6.00	38.8	5.71	36.5	5.59	33.6	5.43
	15.0	14.0	49.6	6.64	47.8	6.45	45.1	6.17	43.1	5.91	41.0	5.65	38.8	5.38	36.5	5.25	33.6	5.08
	20.0	19.0	49.6	6.20	47.8	6.03	45.1	5.77	43.1	5.53	41.0	5.29	38.8	5.03	36.5	4.90	33.6	4.72
	25.0	23.0	49.6	5.78	47.8	5.62	45.1	5.38	43.1	5.16	41.0	4.94	38.8	4.69	36.5	4.55	33.6	4.36
	30.0	28.0	49.6	5.35	47.8	5.21	45.1	4.99	43.1	4.78	41.0	4.58	38.8	4.35	36.5	4.20	33.6	4.00
	35.0	32.0	49.6	4.93	47.8	4.80	45.1	4.60	43.1	4.41	41.0	4.23	38.8	4.01	36.5	3.86	33.6	3.65
	40.0	36.0	49.6	4.50	47.8	4.38	45.1	4.20	43.1	4.04	41.0	3.87	38.8	3.67	36.5	3.51	33.6	3.29
	45.0	41.0	49.6	4.09	47.8	3.98	45.1	3.82	43.1	3.68	41.0	3.53	38.8	3.34	36.5	3.17	33.6	2.94
	47.0	43.0	49.6	3.98	47.8	3.88	45.1	3.72	43.1	3.58	41.0	3.43	38.8	3.25	36.5	3.09	33.6	2.87
	50.0	46.0	49.6	3.84	47.8	3.74	45.1	3.59	43.1	3.45	41.0	3.31	38.8	3.13	36.5	2.97	33.6	2.76
55.0	51.0	49.6	3.60	47.8	3.51	45.1	3.36	43.1	3.24	41.0	3.11	38.8	2.94	36.5	2.79	33.6	2.59	
60.0	56.0	49.6	3.35	47.8	3.26	45.1	3.13	43.1	3.01	41.0	2.89	38.8	2.74	36.5	2.60	33.6	2.41	
60	-4.0	-4.4	42.2	4.71	40.8	4.91	38.8	5.22	37.0	5.63	35.2	6.03	33.1	6.12	31.3	5.97	28.9	5.76
	0.0	-0.4	42.5	5.07	41.0	5.27	38.8	5.57	37.0	5.84	35.2	6.10	33.1	5.88	31.3	5.68	28.9	5.42
	5.0	4.5	42.5	5.51	41.0	5.71	38.8	6.02	37.0	5.89	35.2	5.76	33.1	5.54	31.3	5.35	28.9	5.08
	10.0	9.0	42.5	6.25	41.0	6.16	38.8	6.02	37.0	5.72	35.2	5.42	33.1	5.20	31.3	5.01	28.9	4.75
	15.0	14.0	42.5	6.07	41.0	5.90	38.8	5.64	37.0	5.36	35.2	5.08	33.1	4.87	31.3	4.68	28.9	4.42
	20.0	19.0	42.5	5.67	41.0	5.50	38.8	5.24	37.0	4.99	35.2	4.73	33.1	4.52	31.3	4.33	28.9	4.08
	25.0	23.0	42.5	5.27	41.0	5.10	38.8	4.85	37.0	4.62	35.2	4.39	33.1	4.18	31.3	4.00	28.9	3.75
	30.0	28.0	42.5	4.87	41.0	4.71	38.8	4.46	37.0	4.26	35.2	4.05	33.1	3.84	31.3	3.66	28.9	3.42
	35.0	32.0	42.5	4.47	41.0	4.31	38.8	4.07	37.0	3.89	35.2	3.71	33.1	3.50	31.3	3.32	28.9	3.09
	40.0	36.0	42.5	4.07	41.0	3.92	38.8	3.69	37.0	3.52	35.2	3.36	33.1	3.16	31.3	2.98	28.9	2.75
	45.0	41.0	42.5	3.68	41.0	3.53	38.8	3.31	37.0	3.17	35.2	3.03	33.1	2.83	31.3	2.66	28.9	2.43
	47.0	43.0	42.5	3.59	41.0	3.44	38.8	3.22	37.0	3.09	35.2	2.95	33.1	2.76	31.3	2.59	28.9	2.37
	50.0	46.0	42.5	3.45	41.0	3.31	38.8	3.10	37.0	2.97	35.2	2.84	33.1	2.65	31.3	2.49	28.9	2.28
55.0	51.0	42.5	3.24	41.0	3.11	38.8	2.91	37.0	2.79	35.2	2.67	33.1	2.49	31.3	2.34	28.9	2.14	
60.0	56.0	42.5	3.01	41.0	2.89	38.8	2.71	37.0	2.60	35.2	2.48	33.1	2.32	31.3	2.18	28.9	1.99	
50	-4.0	-4.4	35.5	4.33	34.2	4.65	32.3	5.13	30.8	5.38	29.4	5.62	27.6	5.33	26.0	5.07	23.9	4.72
	0.0	-0.4	35.5	4.68	34.2	5.00	32.3	5.48	30.8	5.45	29.4	5.41	27.6	5.08	26.0	4.83	23.9	4.50
	5.0	4.5	35.5	5.45	34.2	5.45	32.3	5.44	30.8	5.26	29.4	5.08	27.6	4.77	26.0	4.53	23.9	4.22
	10.0	9.0	35.5	5.70	34.2	5.46	32.3	5.09	30.8	4.92	29.4	4.75	27.6	4.46	26.0	4.24	23.9	3.94
	15.0	14.0	35.5	5.31	34.2	5.09	32.3	4.75	30.8	4.59	29.4	4.43	27.6	4.16	26.0	3.95	23.9	3.66
	20.0	19.0	35.5	4.92	34.2	4.71	32.3	4.40	30.8	4.24	29.4	4.09	27.6	3.84	26.0	3.64	23.9	3.38
	25.0	23.0	35.5	4.52	34.2	4.33	32.3	4.05	30.8	3.90	29.4	3.76	27.6	3.53	26.0	3.35	23.9	3.10
	30.0	28.0	35.5	4.13	34.2	3.96	32.3	3.70	30.8	3.56	29.4	3.42	27.6	3.22	26.0	3.05	23.9	2.82
	35.0	32.0	35.5	3.74	34.2	3.58	32.3	3.35	30.8	3.22	29.4	3.09	27.6	2.91	26.0	2.75	23.9	2.54
	40.0	36.0	35.5	3.35	34.2	3.21	32.3	3.00	30.8	2.88	29.4	2.76	27.6	2.60	26.0	2.46	23.9	2.26
	45.0	41.0	35.5	2.97	34.2	2.85	32.3	2.67	30.8	2.56	29.4	2.44	27.6	2.31	26.0	2.17	23.9	2.00
	47.0	43.0	35.5	2.89	34.2	2.78	32.3	2.60	30.8	2.49	29.4	2.38	27.6	2.24	26.0	2.12	23.9	1.94
	50.0	46.0	35.5	2.79	34.2	2.67	32.3	2.50	30.8	2.40	29.4	2.29	27.6	2.16	26.0	2.04	23.9	1.87
55.0	51.0	35.5	2.62	34.2	2.51	32.3	2.35	30.8	2.25	29.4	2.15	27.6	2.03	26.0	1.91	23.9	1.76	
60.0	56.0	35.5	2.43	34.2	2.33	32.3	2.18	30.8	2.09	29.4	2.00	27.6	1.89	26.0	1.78	23.9	1.63	

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



ARUN060GSS4

60,000 Btu/h 208-230V Heat Pump Units

MULTI V S Outdoor Unit Engineering Manual

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	44.2	3.20	44.2	3.51	44.2	3.97	44.1	4.35	44.0	4.74	44.0	5.13	44.0	5.33	44.0	5.58
	-7.0	-7.6	48.2	3.66	48.2	3.97	48.2	4.43	48.0	4.81	47.9	5.20	47.9	5.59	47.9	5.79	47.9	6.04
	-4.0	-4.4	50.5	3.94	50.5	4.25	50.5	4.71	50.4	5.09	50.2	5.47	50.2	5.87	50.2	6.06	50.2	6.32
	0.0	-0.4	53.5	4.28	53.5	4.59	53.5	5.05	53.3	5.43	53.1	5.82	53.1	6.21	53.1	6.40	53.1	6.66
	5.0	4.5	57.1	4.71	57.1	5.01	57.1	5.47	56.9	5.86	56.8	6.24	56.8	6.64	56.8	6.83	56.8	7.09
	10.0	9.0	60.8	5.13	60.8	5.44	60.8	5.90	60.6	6.28	60.4	6.67	60.4	7.07	60.4	7.26	60.4	7.51
	15.0	14.0	64.4	5.55	64.4	5.86	64.4	6.32	64.2	6.70	64.0	7.09	64.0	7.48	64.0	7.68	64.0	7.93
	20.0	19.0	68.1	5.99	68.1	6.29	68.1	6.75	67.9	7.14	67.7	7.52	67.7	7.91	67.7	8.10	67.7	8.35
	25.0	23.0	71.7	6.41	71.7	6.72	71.7	7.18	71.5	7.40	71.3	7.63	71.3	7.90	71.3	8.09	71.3	8.34
	30.0	28.0	75.4	6.84	75.4	7.15	75.4	7.61	75.2	7.43	74.9	7.24	74.5	6.94	73.6	6.78	72.4	6.57
	35.0	32.0	79.0	7.64	79.0	7.57	79.0	7.47	78.8	7.17	78.6	6.86	77.0	6.57	73.8	6.42	69.5	6.22
	40.0	36.0	82.7	7.68	82.7	7.40	82.7	6.97	82.4	6.73	82.2	6.48	78.0	6.21	73.4	6.06	67.3	5.86
	45.0	41.0	85.5	6.83	85.5	6.68	85.5	6.47	84.3	6.28	83.1	6.10	78.0	5.85	73.4	5.70	67.3	5.50
	47.0	43.0	85.5	6.65	85.5	6.51	85.5	6.30	84.3	6.12	83.1	5.94	78.0	5.69	73.4	5.55	67.3	5.36
	50.0	46.0	85.5	6.40	85.5	6.27	85.5	6.07	84.3	5.89	83.1	5.72	78.0	5.48	73.4	5.34	67.3	5.16
	55.0	51.0	85.5	6.01	85.5	5.88	85.5	5.69	84.3	5.53	83.1	5.37	78.0	5.15	73.4	5.02	67.3	4.84
60.0	56.0	85.5	5.59	85.5	5.47	85.5	5.29	84.3	5.14	83.1	4.99	78.0	4.79	73.4	4.66	67.3	4.50	
120	-12.6	-13.0	43.9	3.66	43.9	3.97	43.9	4.43	43.8	4.58	43.6	4.74	43.6	5.33	43.6	5.46	43.6	5.63
	-7.0	-7.6	47.8	4.12	47.8	4.43	47.8	4.89	47.7	5.04	47.5	5.20	47.5	5.79	47.5	5.92	47.5	6.09
	-4.0	-4.4	50.2	4.40	50.2	4.71	50.2	5.17	50.0	5.32	49.9	5.47	49.9	6.07	49.9	6.20	49.9	6.37
	0.0	-0.4	53.1	4.74	53.1	5.05	53.1	5.51	52.9	5.66	52.8	5.82	52.8	6.41	52.8	6.54	52.8	6.71
	5.0	4.5	56.7	5.17	56.7	5.47	56.7	5.93	56.5	6.09	56.4	6.24	56.4	6.84	56.4	6.97	56.4	7.14
	10.0	9.0	60.3	5.59	60.3	5.90	60.3	6.36	60.2	6.52	60.0	6.67	60.0	7.27	60.0	7.39	60.0	7.57
	15.0	14.0	63.9	6.01	63.9	6.32	63.9	6.78	63.7	6.93	63.5	7.09	63.5	7.68	63.5	7.81	63.5	7.98
	20.0	19.0	67.6	6.45	67.6	6.75	67.6	7.22	67.4	7.47	67.2	7.73	67.2	7.51	67.2	7.41	67.2	7.27
	25.0	23.0	71.2	6.87	71.2	7.18	71.2	7.64	71.0	7.50	70.8	7.37	70.4	7.17	69.5	7.07	68.4	6.94
	30.0	28.0	74.9	7.70	74.9	7.61	74.9	7.47	74.6	7.24	74.4	7.00	72.6	6.83	69.2	6.73	64.7	6.60
	35.0	32.0	78.5	7.71	78.5	7.44	78.5	7.03	77.7	6.83	77.0	6.63	73.4	6.49	68.9	6.39	62.9	6.27
	40.0	36.0	82.1	7.05	82.1	6.86	82.1	6.58	80.0	6.42	77.9	6.27	73.4	6.15	68.9	6.06	62.9	5.94
	45.0	41.0	85.4	6.42	84.8	6.30	83.9	6.13	80.9	6.02	77.9	5.90	73.4	5.80	68.9	5.71	62.9	5.60
	47.0	43.0	85.4	6.25	84.8	6.14	83.9	5.97	80.9	5.86	77.9	5.74	73.4	5.65	68.9	5.56	62.9	5.45
	50.0	46.0	85.4	6.02	84.8	5.91	83.9	5.75	80.9	5.64	77.9	5.53	73.4	5.44	68.9	5.36	62.9	5.25
	55.0	51.0	85.4	5.65	84.8	5.55	83.9	5.40	80.9	5.29	77.9	5.19	73.4	5.11	68.9	5.03	62.9	4.93
60.0	56.0	85.4	5.25	84.8	5.16	83.9	5.02	80.9	4.92	77.9	4.83	73.4	4.75	68.9	4.68	62.9	4.58	
110	-12.6	-13.0	43.7	4.22	43.7	4.43	43.7	4.74	43.5	5.01	43.4	5.27	43.4	5.57	43.4	5.86	43.4	6.25
	-7.0	-7.6	47.6	4.69	47.6	4.89	47.6	5.20	47.4	5.47	47.3	5.74	47.3	6.03	47.3	6.32	47.3	6.71
	-4.0	-4.4	49.9	4.96	49.9	5.17	49.9	5.47	49.8	5.74	49.6	6.01	49.6	6.30	49.6	6.60	49.6	6.99
	0.0	-0.4	52.8	5.30	52.8	5.51	52.8	5.82	52.6	6.08	52.5	6.35	52.5	6.64	52.5	6.94	52.5	7.33
	5.0	4.5	56.4	5.73	56.4	5.93	56.4	6.24	56.2	6.51	56.1	6.78	56.1	7.07	56.1	7.37	56.1	7.76
	10.0	9.0	60.0	6.16	60.0	6.36	60.0	6.67	59.8	6.94	59.6	7.21	59.6	7.50	59.6	7.79	59.6	8.18
	15.0	14.0	63.6	6.58	63.6	6.78	63.6	7.09	63.4	7.36	63.2	7.62	63.1	7.66	63.1	7.42	63.0	7.10
	20.0	19.0	67.2	7.01	67.2	7.22	67.2	7.52	67.0	7.52	66.8	7.53	65.2	7.29	62.3	7.07	58.4	6.76
	25.0	23.0	70.8	7.67	70.8	7.64	70.8	7.59	70.2	7.37	69.5	7.14	65.8	6.93	62.1	6.72	57.1	6.44
	30.0	28.0	74.5	7.61	74.5	7.42	74.5	7.13	72.2	6.94	69.9	6.76	65.8	6.56	62.1	6.37	57.1	6.11
	35.0	32.0	79.1	7.03	78.1	6.88	76.5	6.66	73.2	6.52	69.9	6.37	65.8	6.20	62.1	6.02	57.1	5.79
	40.0	36.0	83.7	6.45	81.0	6.35	77.0	6.20	73.5	6.09	69.9	5.99	65.8	5.83	62.1	5.67	57.1	5.46
	45.0	41.0	84.5	5.89	81.5	5.83	77.0	5.74	73.5	5.67	69.9	5.61	65.8	5.47	62.1	5.32	57.1	5.13
	47.0	43.0	84.5	5.73	81.5	5.67	77.0	5.59	73.5	5.52	69.9	5.46	65.8	5.32	62.1	5.18	57.1	5.00
	50.0	46.0	84.5	5.52	81.5	5.46	77.0	5.38	73.5	5.32	69.9	5.26	65.8	5.13	62.1	4.99	57.1	4.81
	55.0	51.0	84.5	5.18	81.5	5.13	77.0	5.05	73.5	4.99	69.9	4.93	65.8	4.81	62.1	4.69	57.1	4.52
60.0	56.0	84.5	4.82	81.5	4.77	77.0	4.70	73.5	4.64	69.9	4.59	65.8	4.47	62.1	4.36	57.1	4.20	

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).



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	43.5	4.53	43.5	4.74	43.5	5.04	43.4	5.26	43.2	5.47	43.2	5.89	43.2	6.14	43.2	6.46
	-7.0	-7.6	47.4	4.99	47.4	5.20	47.4	5.50	47.2	5.72	47.1	5.93	47.1	6.36	47.1	6.60	47.1	6.92
	-4.0	-4.4	49.7	5.27	49.7	5.47	49.7	5.78	49.6	6.00	49.4	6.21	49.4	6.63	49.4	6.88	49.4	7.20
	0.0	-0.4	52.5	5.61	52.4	5.82	52.3	6.12	52.2	6.34	52.1	6.55	52.1	6.97	52.1	7.22	52.1	7.54
	5.0	4.5	56.0	6.04	56.0	6.24	56.0	6.55	55.9	6.76	55.7	6.98	55.7	7.40	55.7	7.64	55.7	7.97
	10.0	9.0	59.9	6.46	59.7	6.67	59.5	6.98	59.4	7.19	59.4	7.41	58.7	7.65	57.2	7.53	55.2	7.36
	15.0	14.0	63.2	6.88	63.2	7.09	63.2	7.39	63.1	7.43	62.9	7.46	60.2	7.33	56.7	7.10	52.0	6.81
	20.0	19.0	68.3	7.41	68.1	7.52	67.7	7.69	65.8	7.38	64.0	7.06	60.2	6.90	56.7	6.69	52.0	6.41
	25.0	23.0	72.7	7.91	71.6	7.58	70.1	7.10	67.1	6.89	64.0	6.68	60.2	6.49	56.7	6.29	52.0	6.02
	30.0	28.0	76.1	7.37	73.8	7.10	70.3	6.69	67.2	6.49	64.0	6.29	60.2	6.08	56.7	5.89	52.0	5.63
	35.0	32.0	77.4	6.83	74.6	6.61	70.3	6.28	67.2	6.09	64.0	5.91	60.2	5.66	56.7	5.48	52.0	5.25
	40.0	36.0	77.4	6.29	74.6	6.12	70.3	5.87	67.2	5.69	64.0	5.52	60.2	5.25	56.7	5.08	52.0	4.86
	45.0	41.0	77.4	5.76	74.6	5.64	70.3	5.46	67.2	5.30	64.0	5.14	60.2	4.84	56.7	4.68	52.0	4.48
	47.0	43.0	77.4	5.61	74.6	5.49	70.3	5.32	67.2	5.16	64.0	5.00	60.2	4.71	56.7	4.56	52.0	4.36
	50.0	46.0	77.4	5.40	74.6	5.29	70.3	5.12	67.2	4.97	64.0	4.82	60.2	4.54	56.7	4.39	52.0	4.20
	55.0	51.0	77.4	5.07	74.6	4.96	70.3	4.81	67.2	4.66	64.0	4.52	60.2	4.26	56.7	4.12	52.0	3.94
	60.0	56.0	77.4	4.71	74.6	4.62	70.3	4.47	67.2	4.34	64.0	4.20	60.2	3.96	56.7	3.83	52.0	3.66
90	-12.6	-13.0	43.3	4.49	43.3	4.64	43.3	4.87	43.2	5.12	43.1	5.38	43.1	5.85	43.1	6.23	43.1	6.74
	-7.0	-7.6	47.2	4.95	47.2	5.10	47.2	5.33	47.0	5.58	46.9	5.84	46.9	6.31	46.9	6.69	46.9	7.21
	-4.0	-4.4	49.5	5.22	49.5	5.38	49.5	5.61	49.4	5.86	49.2	6.11	49.2	6.59	49.2	6.97	49.2	7.48
	0.0	-0.4	52.5	5.57	52.4	5.72	52.3	5.95	52.2	6.20	52.0	6.46	51.9	6.93	51.6	7.31	51.2	7.82
	5.0	4.5	56.0	5.99	56.0	6.15	56.0	6.38	55.8	6.63	55.6	6.88	54.3	7.17	52.1	7.15	49.2	7.13
	10.0	9.0	59.9	6.42	59.7	6.57	59.5	6.80	58.9	7.06	58.3	7.31	55.2	7.03	51.8	6.71	47.3	6.29
	15.0	14.0	63.2	6.84	63.2	6.99	63.2	7.22	60.9	7.14	58.6	7.05	55.2	6.67	51.8	6.37	47.3	5.96
	20.0	19.0	70.0	7.47	67.7	7.32	64.3	7.10	61.4	6.87	58.6	6.65	55.2	6.29	51.8	6.00	47.3	5.62
	25.0	23.0	71.0	7.03	68.3	6.89	64.3	6.67	61.4	6.47	58.6	6.26	55.2	5.92	51.8	5.65	47.3	5.29
	30.0	28.0	71.0	6.59	68.3	6.45	64.3	6.25	61.4	6.06	58.6	5.87	55.2	5.55	51.8	5.30	47.3	4.95
	35.0	32.0	71.0	6.14	68.3	6.02	64.3	5.83	61.4	5.65	58.6	5.47	55.2	5.19	51.8	4.94	47.3	4.62
	40.0	36.0	71.0	5.70	68.3	5.58	64.3	5.41	61.4	5.25	58.6	5.08	55.2	4.82	51.8	4.59	47.3	4.28
	45.0	41.0	71.0	5.26	68.3	5.16	64.3	5.00	61.4	4.85	58.6	4.70	55.2	4.46	51.8	4.24	47.3	3.95
	47.0	43.0	71.0	5.12	68.3	5.02	64.3	4.86	61.4	4.72	58.6	4.57	55.2	4.34	51.8	4.13	47.3	3.85
	50.0	46.0	71.0	4.93	68.3	4.83	64.3	4.68	61.4	4.54	58.6	4.40	55.2	4.18	51.8	3.97	47.3	3.70
	55.0	51.0	71.0	4.63	68.3	4.54	64.3	4.40	61.4	4.26	58.6	4.13	55.2	3.92	51.8	3.73	47.3	3.48
	60.0	56.0	71.0	4.31	68.3	4.22	64.3	4.09	61.4	3.97	58.6	3.84	55.2	3.65	51.8	3.47	47.3	3.23
80	-12.6	-13.0	43.1	3.90	43.1	4.04	43.1	4.23	43.0	4.53	42.9	4.83	42.9	5.47	42.9	5.86	42.9	6.37
	-7.0	-7.6	47.0	4.36	47.0	4.50	47.0	4.70	46.9	5.00	46.7	5.29	46.7	5.91	46.7	6.23	46.7	6.67
	-4.0	-4.4	49.3	4.64	49.3	4.77	49.3	4.97	49.2	5.27	49.0	5.57	48.2	6.17	46.6	6.46	44.4	6.85
	0.0	-0.4	52.3	4.98	52.3	5.11	52.3	5.31	51.9	5.61	51.5	5.91	49.2	6.39	46.3	6.44	42.4	6.50
	5.0	4.5	56.0	5.41	56.0	5.54	56.0	5.74	54.2	6.04	52.5	6.34	49.2	6.26	46.3	6.07	42.4	5.81
	10.0	9.0	61.4	5.83	59.9	5.97	57.6	6.17	55.1	6.26	52.5	6.36	49.2	5.95	46.3	5.76	42.4	5.52
	15.0	14.0	63.5	6.31	61.2	6.39	57.6	6.50	55.1	6.26	52.5	6.02	49.2	5.64	46.3	5.46	42.4	5.22
	20.0	19.0	63.5	6.40	61.2	6.29	57.6	6.12	55.1	5.90	52.5	5.67	49.2	5.32	46.3	5.15	42.4	4.92
	25.0	23.0	63.5	6.01	61.2	5.91	57.6	5.75	55.1	5.54	52.5	5.33	49.2	5.01	46.3	4.84	42.4	4.62
	30.0	28.0	63.5	5.63	61.2	5.53	57.6	5.37	55.1	5.18	52.5	4.99	49.2	4.70	46.3	4.54	42.4	4.32
	35.0	32.0	63.5	5.24	61.2	5.15	57.6	5.00	55.1	4.82	52.5	4.64	49.2	4.39	46.3	4.23	42.4	4.02
	40.0	36.0	63.5	4.86	61.2	4.76	57.6	4.63	55.1	4.47	52.5	4.30	49.2	4.07	46.3	3.92	42.4	3.72
	45.0	41.0	63.5	4.48	61.2	4.39	57.6	4.26	55.1	4.11	52.5	3.97	49.2	3.77	46.3	3.62	42.4	3.43
	47.0	43.0	63.5	4.36	61.2	4.27	57.6	4.15	55.1	4.01	52.5	3.86	49.2	3.67	46.3	3.53	42.4	3.34
	50.0	46.0	63.5	4.20	61.2	4.12	57.6	4.00	55.1	3.86	52.5	3.72	49.2	3.53	46.3	3.40	42.4	3.22
	55.0	51.0	63.5	3.94	61.2	3.86	57.6	3.75	55.1	3.62	52.5	3.49	49.2	3.32	46.3	3.19	42.4	3.02
	60.0	56.0	63.5	3.66	61.2	3.59	57.6	3.49	55.1	3.37	52.5	3.24	49.2	3.08	46.3	2.97	42.4	2.81

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



ARUN060GSS4

60,000 Btu/h 208-230V Heat Pump Units

MULTI V S Outdoor Unit Engineering Manual

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
70	-12.6	-13.0	43.1	3.72	43.1	3.93	43.1	4.24	43.0	4.57	42.9	4.89	41.9	5.54	39.7	5.93	36.8	6.45
	-7.0	-7.6	46.4	4.19	46.4	4.39	46.4	4.70	45.4	5.06	44.5	5.42	42.0	5.94	39.6	6.18	36.4	6.49
	-4.0	-4.4	48.3	4.46	48.3	4.67	48.3	4.97	46.4	5.35	44.5	5.73	42.0	6.18	39.6	6.32	36.4	6.51
	0.0	-0.4	51.8	4.80	50.7	5.01	49.0	5.32	46.7	5.72	44.5	6.12	42.0	6.14	39.6	6.03	36.4	5.90
	5.0	4.5	53.8	5.23	51.8	5.44	49.0	5.74	46.7	5.92	44.5	6.10	42.0	5.81	39.6	5.70	36.4	5.56
	10.0	9.0	53.8	5.66	51.9	5.86	49.0	6.17	46.7	5.96	44.5	5.76	42.0	5.48	39.6	5.37	36.4	5.21
	15.0	14.0	53.8	6.37	51.9	6.19	49.0	5.92	46.7	5.67	44.5	5.42	42.0	5.16	39.6	5.04	36.4	4.88
	20.0	19.0	53.8	5.95	51.9	5.79	49.0	5.54	46.7	5.31	44.5	5.08	42.0	4.83	39.6	4.70	36.4	4.53
	25.0	23.0	53.8	5.55	51.9	5.39	49.0	5.16	46.7	4.95	44.5	4.74	42.0	4.50	39.6	4.37	36.4	4.18
	30.0	28.0	53.8	5.14	51.9	5.00	49.0	4.79	46.7	4.59	44.5	4.40	42.0	4.18	39.6	4.03	36.4	3.84
	35.0	32.0	53.8	4.73	51.9	4.60	49.0	4.41	46.7	4.23	44.5	4.06	42.0	3.85	39.6	3.70	36.4	3.50
	40.0	36.0	53.8	4.32	51.9	4.21	49.0	4.04	46.7	3.88	44.5	3.72	42.0	3.53	39.6	3.37	36.4	3.16
	45.0	41.0	53.8	3.93	51.9	3.82	49.0	3.67	46.7	3.53	44.5	3.39	42.0	3.21	39.6	3.04	36.4	2.83
	47.0	43.0	53.8	3.82	51.9	3.72	49.0	3.57	46.7	3.43	44.5	3.30	42.0	3.12	39.6	2.96	36.4	2.75
	50.0	46.0	53.8	3.68	51.9	3.58	49.0	3.44	46.7	3.31	44.5	3.17	42.0	3.01	39.6	2.85	36.4	2.65
	55.0	51.0	53.8	3.45	51.9	3.36	49.0	3.23	46.7	3.10	44.5	2.98	42.0	2.82	39.6	2.68	36.4	2.49
60.0	56.0	53.8	3.21	51.9	3.13	49.0	3.00	46.7	2.89	44.5	2.77	42.0	2.62	39.6	2.49	36.4	2.31	
60	-12.6	-13.0	39.7	3.78	39.7	3.98	39.7	4.27	39.0	4.65	38.2	5.03	35.9	5.70	34.0	6.10	31.3	6.63
	-7.0	-7.6	42.9	4.24	42.6	4.44	42.1	4.73	40.1	5.12	38.2	5.51	35.9	5.79	34.0	6.04	31.3	6.38
	-4.0	-4.4	45.8	4.52	44.3	4.72	42.1	5.01	40.1	5.40	38.2	5.79	35.9	5.87	34.0	5.72	31.3	5.53
	0.0	-0.4	46.1	4.86	44.5	5.06	42.1	5.35	40.1	5.60	38.2	5.85	35.9	5.65	34.0	5.45	31.3	5.20
	5.0	4.5	46.1	5.29	44.5	5.48	42.1	5.78	40.1	5.65	38.2	5.53	35.9	5.32	34.0	5.13	31.3	4.88
	10.0	9.0	46.1	6.00	44.5	5.91	42.1	5.78	40.1	5.49	38.2	5.20	35.9	4.99	34.0	4.81	31.3	4.56
	15.0	14.0	46.1	5.83	44.5	5.66	42.1	5.41	40.1	5.14	38.2	4.88	35.9	4.67	34.0	4.49	31.3	4.25
	20.0	19.0	46.1	5.44	44.5	5.27	42.1	5.03	40.1	4.79	38.2	4.54	35.9	4.34	34.0	4.16	31.3	3.92
	25.0	23.0	46.1	5.05	44.5	4.90	42.1	4.66	40.1	4.43	38.2	4.21	35.9	4.01	34.0	3.84	31.3	3.60
	30.0	28.0	46.1	4.67	44.5	4.52	42.1	4.28	40.1	4.08	38.2	3.88	35.9	3.69	34.0	3.51	31.3	3.28
	35.0	32.0	46.1	4.29	44.5	4.14	42.1	3.91	40.1	3.73	38.2	3.56	35.9	3.36	34.0	3.19	31.3	2.96
	40.0	36.0	46.1	3.91	44.5	3.76	42.1	3.54	40.1	3.38	38.2	3.23	35.9	3.03	34.0	2.86	31.3	2.64
	45.0	41.0	46.1	3.53	44.5	3.39	42.1	3.18	40.1	3.04	38.2	2.91	35.9	2.72	34.0	2.55	31.3	2.34
	47.0	43.0	46.1	3.44	44.5	3.30	42.1	3.09	40.1	2.96	38.2	2.83	35.9	2.64	34.0	2.49	31.3	2.27
	50.0	46.0	46.1	3.31	44.5	3.18	42.1	2.98	40.1	2.85	38.2	2.73	35.9	2.55	34.0	2.39	31.3	2.19
	55.0	51.0	46.1	3.11	44.5	2.98	42.1	2.80	40.1	2.68	38.2	2.56	35.9	2.39	34.0	2.25	31.3	2.06
60.0	56.0	46.1	2.89	44.5	2.78	42.1	2.60	40.1	2.49	38.2	2.38	35.9	2.22	34.0	2.09	31.3	1.91	
50	-12.6	-13.0	38.5	3.42	37.1	3.72	35.0	4.18	33.4	4.58	31.9	4.97	30.0	5.24	28.2	5.50	25.9	5.84
	-7.0	-7.6	38.5	3.88	37.1	4.18	35.0	4.64	33.4	4.88	31.9	5.12	30.0	5.31	28.2	5.05	25.9	4.70
	-4.0	-4.4	38.5	4.15	37.1	4.46	35.0	4.92	33.4	5.16	31.9	5.40	30.0	5.11	28.2	4.86	25.9	4.53
	0.0	-0.4	38.5	4.49	37.1	4.80	35.0	5.26	33.4	5.23	31.9	5.20	30.0	4.88	28.2	4.64	25.9	4.31
	5.0	4.5	38.5	5.23	37.1	5.23	35.0	5.22	33.4	5.05	31.9	4.88	30.0	4.58	28.2	4.35	25.9	4.05
	10.0	9.0	38.5	5.47	37.1	5.24	35.0	4.89	33.4	4.72	31.9	4.56	30.0	4.28	28.2	4.07	25.9	3.78
	15.0	14.0	38.5	5.10	37.1	4.89	35.0	4.56	33.4	4.40	31.9	4.25	30.0	3.99	28.2	3.79	25.9	3.52
	20.0	19.0	38.5	4.72	37.1	4.52	35.0	4.22	33.4	4.07	31.9	3.92	30.0	3.69	28.2	3.50	25.9	3.24
	25.0	23.0	38.5	4.34	37.1	4.16	35.0	3.89	33.4	3.75	31.9	3.60	30.0	3.39	28.2	3.21	25.9	2.98
	30.0	28.0	38.5	3.97	37.1	3.80	35.0	3.55	33.4	3.42	31.9	3.29	30.0	3.09	28.2	2.93	25.9	2.71
	35.0	32.0	38.5	3.59	37.1	3.44	35.0	3.22	33.4	3.09	31.9	2.97	30.0	2.79	28.2	2.64	25.9	2.44
	40.0	36.0	38.5	3.21	37.1	3.08	35.0	2.88	33.4	2.77	31.9	2.65	30.0	2.50	28.2	2.36	25.9	2.17
	45.0	41.0	38.5	2.85	37.1	2.74	35.0	2.56	33.4	2.45	31.9	2.34	30.0	2.21	28.2	2.09	25.9	1.92
	47.0	43.0	38.5	2.78	37.1	2.66	35.0	2.49	33.4	2.39	31.9	2.28	30.0	2.15	28.2	2.03	25.9	1.86
	50.0	46.0	38.5	2.67	37.1	2.56	35.0	2.40	33.4	2.30	31.9	2.20	30.0	2.07	28.2	1.95	25.9	1.80
	55.0	51.0	38.5	2.51	37.1	2.41	35.0	2.25	33.4	2.16	31.9	2.06	30.0	1.95	28.2	1.83	25.9	1.69
60.0	56.0	38.5	2.33	37.1	2.24	35.0	2.10	33.4	2.01	31.9	1.92	30.0	1.81	28.2	1.71	25.9	1.57	

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).



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	44.2	3.20	44.2	3.51	44.2	3.97	44.1	4.35	44.0	4.74	44.0	5.13	44.0	5.33	44.0	5.58
	-7.0	-7.6	48.2	3.66	48.2	3.97	48.2	4.43	48.0	4.81	47.9	5.20	47.9	5.59	47.9	5.79	47.9	6.04
	-4.0	-4.4	50.5	3.94	50.5	4.25	50.5	4.71	50.4	5.09	50.2	5.47	50.2	5.87	50.2	6.06	50.2	6.32
	0.0	-0.4	53.5	4.28	53.5	4.59	53.5	5.05	53.3	5.43	53.1	5.82	53.1	6.21	53.1	6.40	53.1	6.66
	5.0	4.5	57.1	4.71	57.1	5.01	57.1	5.47	56.9	5.86	56.8	6.24	56.8	6.64	56.8	6.83	56.8	7.09
	10.0	9.0	60.8	5.13	60.8	5.44	60.8	5.90	60.6	6.28	60.4	6.67	60.4	7.07	60.4	7.26	60.4	7.51
	15.0	14.0	64.4	5.55	64.4	5.86	64.4	6.32	64.2	6.70	64.0	7.09	64.0	7.48	64.0	7.68	64.0	7.93
	20.0	19.0	68.1	5.99	68.1	6.29	68.1	6.75	67.9	7.14	67.7	7.52	67.7	7.66	67.7	7.50	67.7	7.28
	25.0	23.0	71.7	6.41	71.7	6.72	71.7	7.18	71.5	7.40	71.3	7.63	71.3	7.30	71.3	7.14	71.3	6.93
	30.0	28.0	75.4	6.84	75.4	7.15	75.4	7.61	75.2	7.43	74.9	7.24	74.5	6.94	73.6	6.78	72.4	6.57
	35.0	32.0	79.0	7.64	79.0	7.57	79.0	7.47	78.8	7.17	78.6	6.86	77.0	6.57	73.8	6.42	69.5	6.22
	40.0	36.0	82.7	7.68	82.7	7.40	82.7	6.97	82.4	6.73	82.2	6.48	78.0	6.21	73.4	6.06	67.3	5.86
	45.0	41.0	85.5	6.83	85.5	6.68	85.5	6.47	84.3	6.28	83.1	6.10	78.0	5.85	73.4	5.70	67.3	5.50
	47.0	43.0	85.5	6.65	85.5	6.51	85.5	6.30	84.3	6.12	83.1	5.94	78.0	5.69	73.4	5.55	67.3	5.36
	50.0	46.0	85.5	6.40	85.5	6.27	85.5	6.07	84.3	5.89	83.1	5.72	78.0	5.48	73.4	5.34	67.3	5.16
	55.0	51.0	85.5	6.01	85.5	5.88	85.5	5.69	84.3	5.53	83.1	5.37	78.0	5.15	73.4	5.02	67.3	4.84
60.0	56.0	85.5	5.59	85.5	5.47	85.5	5.29	84.3	5.14	83.1	4.99	78.0	4.79	73.4	4.66	67.3	4.50	
120%	-12.6	-13.0	43.9	3.66	43.9	3.97	43.9	4.43	43.8	4.58	43.6	4.74	43.6	5.33	43.6	5.46	43.6	5.63
	-7.0	-7.6	47.8	4.12	47.8	4.43	47.8	4.89	47.7	5.04	47.5	5.20	47.5	5.79	47.5	5.92	47.5	6.09
	-4.0	-4.4	50.2	4.40	50.2	4.71	50.2	5.17	50.0	5.32	49.9	5.47	49.9	6.07	49.9	6.20	49.9	6.37
	0.0	-0.4	53.1	4.74	53.1	5.05	53.1	5.51	52.9	5.66	52.8	5.82	52.8	6.41	52.8	6.54	52.8	6.71
	5.0	4.5	56.7	5.17	56.7	5.47	56.7	5.93	56.5	6.09	56.4	6.24	56.4	6.84	56.4	6.97	56.4	7.14
	10.0	9.0	60.3	5.59	60.3	5.90	60.3	6.36	60.2	6.52	60.0	6.67	60.0	7.27	60.0	7.39	60.0	7.57
	15.0	14.0	63.9	6.01	63.9	6.32	63.9	6.78	63.7	6.93	63.5	7.09	63.5	7.68	63.5	7.81	63.5	7.98
	20.0	19.0	67.6	6.45	67.6	6.75	67.6	7.22	67.4	7.47	67.2	7.73	67.2	7.51	67.2	7.41	67.2	7.27
	25.0	23.0	71.2	6.87	71.2	7.18	71.2	7.64	71.0	7.50	70.8	7.37	70.4	7.17	69.5	7.07	68.4	6.94
	30.0	28.0	74.9	7.70	74.9	7.61	74.9	7.47	74.6	7.24	74.4	7.00	72.6	6.83	69.2	6.73	64.7	6.60
	35.0	32.0	78.5	7.71	78.5	7.44	78.5	7.03	77.7	6.83	77.0	6.63	73.4	6.49	68.9	6.39	62.9	6.27
	40.0	36.0	82.1	7.05	82.1	6.86	82.1	6.58	80.0	6.42	77.9	6.27	73.4	6.15	68.9	6.06	62.9	5.94
	45.0	41.0	85.4	6.42	84.8	6.30	83.9	6.13	80.9	6.02	77.9	5.90	73.4	5.80	68.9	5.71	62.9	5.60
	47.0	43.0	85.4	6.25	84.8	6.14	83.9	5.97	80.9	5.86	77.9	5.74	73.4	5.65	68.9	5.56	62.9	5.45
	50.0	46.0	85.4	6.02	84.8	5.91	83.9	5.75	80.9	5.64	77.9	5.53	73.4	5.44	68.9	5.36	62.9	5.25
	55.0	51.0	85.4	5.65	84.8	5.55	83.9	5.40	80.9	5.29	77.9	5.19	73.4	5.11	68.9	5.03	62.9	4.93
60.0	56.0	85.4	5.25	84.8	5.16	83.9	5.02	80.9	4.92	77.9	4.83	73.4	4.75	68.9	4.68	62.9	4.58	
110%	-12.6	-13.0	43.7	4.22	43.7	4.43	43.7	4.74	43.5	5.01	43.4	5.27	43.4	5.57	43.4	5.86	43.4	6.25
	-7.0	-7.6	47.6	4.69	47.6	4.89	47.6	5.20	47.4	5.47	47.3	5.74	47.3	6.03	47.3	6.32	47.3	6.71
	-4.0	-4.4	49.9	4.96	49.9	5.17	49.9	5.47	49.8	5.74	49.6	6.01	49.6	6.30	49.6	6.60	49.6	6.99
	0.0	-0.4	52.8	5.30	52.8	5.51	52.8	5.82	52.6	6.08	52.5	6.35	52.5	6.64	52.5	6.94	52.5	7.33
	5.0	4.5	56.4	5.73	56.4	5.93	56.4	6.24	56.2	6.51	56.1	6.78	56.1	7.07	56.1	7.37	56.1	7.76
	10.0	9.0	60.0	6.16	60.0	6.36	60.0	6.67	59.8	6.94	59.6	7.21	59.6	7.50	59.6	7.79	59.6	8.18
	15.0	14.0	63.6	6.58	63.6	6.78	63.6	7.09	63.4	7.36	63.2	7.62	63.1	7.66	63.1	7.42	63.0	7.10
	20.0	19.0	67.2	7.01	67.2	7.22	67.2	7.52	67.0	7.52	66.8	7.53	65.2	7.29	62.3	7.07	58.4	6.76
	25.0	23.0	70.8	7.67	70.8	7.64	70.8	7.59	70.2	7.37	69.5	7.14	65.8	6.93	62.1	6.72	57.1	6.44
	30.0	28.0	74.5	7.61	74.5	7.42	74.5	7.13	72.2	6.94	69.9	6.76	65.8	6.56	62.1	6.37	57.1	6.11
	35.0	32.0	79.1	7.03	78.1	6.88	76.5	6.66	73.2	6.52	69.9	6.37	65.8	6.20	62.1	6.02	57.1	5.79
	40.0	36.0	83.7	6.45	81.0	6.35	77.0	6.20	73.5	6.09	69.9	5.99	65.8	5.83	62.1	5.67	57.1	5.46
	45.0	41.0	84.5	5.89	81.5	5.83	77.0	5.74	73.5	5.67	69.9	5.61	65.8	5.47	62.1	5.32	57.1	5.13
	47.0	43.0	84.5	5.73	81.5	5.67	77.0	5.59	73.5	5.52	69.9	5.46	65.8	5.32	62.1	5.18	57.1	5.00
	50.0	46.0	84.5	5.52	81.5	5.46	77.0	5.38	73.5	5.32	69.9	5.26	65.8	5.13	62.1	4.99	57.1	4.81
	55.0	51.0	84.5	5.18	81.5	5.13	77.0	5.05	73.5	4.99	69.9	4.93	65.8	4.81	62.1	4.69	57.1	4.52
60.0	56.0	84.5	4.82	81.5	4.77	77.0	4.70	73.5	4.64	69.9	4.59	65.8	4.47	62.1	4.36	57.1	4.20	

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



ARUB060GSS4

60,000 Btu/h 208-230V Heat Recovery Units

MULTI V S Outdoor Unit Engineering Manual

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	43.5	4.53	43.5	4.74	43.5	5.04	43.4	5.26	43.2	5.47	43.2	5.89	43.2	6.14	43.2	6.46
	-7.0	-7.6	47.4	4.99	47.4	5.20	47.4	5.50	47.2	5.72	47.1	5.93	47.1	6.36	47.1	6.60	47.1	6.92
	-4.0	-4.4	49.7	5.27	49.7	5.47	49.7	5.78	49.6	6.00	49.4	6.21	49.4	6.63	49.4	6.88	49.4	7.20
	0.0	-0.4	52.5	5.61	52.4	5.82	52.3	6.12	52.2	6.34	52.1	6.55	52.1	6.97	52.1	7.22	52.1	7.54
	5.0	4.5	56.0	6.04	56.0	6.24	56.0	6.55	55.9	6.76	55.7	6.98	55.7	7.40	55.7	7.64	55.7	7.97
	10.0	9.0	59.9	6.46	59.7	6.67	59.5	6.98	59.4	7.19	59.4	7.41	58.7	7.65	57.2	7.53	55.2	7.36
	15.0	14.0	63.2	6.88	63.2	7.09	63.2	7.39	63.1	7.43	62.9	7.46	60.2	7.33	56.7	7.10	52.0	6.81
	20.0	19.0	68.3	7.41	68.1	7.52	67.7	7.69	65.8	7.38	64.0	7.06	60.2	6.90	56.7	6.69	52.0	6.41
	25.0	23.0	72.7	7.91	71.6	7.58	70.1	7.10	67.1	6.89	64.0	6.68	60.2	6.49	56.7	6.29	52.0	6.02
	30.0	28.0	76.1	7.37	73.8	7.10	70.3	6.69	67.2	6.49	64.0	6.29	60.2	6.08	56.7	5.89	52.0	5.63
	35.0	32.0	77.4	6.83	74.6	6.61	70.3	6.28	67.2	6.09	64.0	5.91	60.2	5.66	56.7	5.48	52.0	5.25
	40.0	36.0	77.4	6.29	74.6	6.12	70.3	5.87	67.2	5.69	64.0	5.52	60.2	5.25	56.7	5.08	52.0	4.86
	45.0	41.0	77.4	5.76	74.6	5.64	70.3	5.46	67.2	5.30	64.0	5.14	60.2	4.84	56.7	4.68	52.0	4.48
	47.0	43.0	77.4	5.61	74.6	5.49	70.3	5.32	67.2	5.16	64.0	5.00	60.2	4.71	56.7	4.56	52.0	4.36
	50.0	46.0	77.4	5.40	74.6	5.29	70.3	5.12	67.2	4.97	64.0	4.82	60.2	4.54	56.7	4.39	52.0	4.20
	55.0	51.0	77.4	5.07	74.6	4.96	70.3	4.81	67.2	4.66	64.0	4.52	60.2	4.26	56.7	4.12	52.0	3.94
	60.0	56.0	77.4	4.71	74.6	4.62	70.3	4.47	67.2	4.34	64.0	4.20	60.2	3.96	56.7	3.83	52.0	3.66
90%	-12.6	-13.0	43.3	4.49	43.3	4.64	43.3	4.87	43.2	5.12	43.1	5.38	43.1	5.85	43.1	6.23	43.1	6.74
	-7.0	-7.6	47.2	4.95	47.2	5.10	47.2	5.33	47.0	5.58	46.9	5.84	46.9	6.31	46.9	6.69	46.9	7.21
	-4.0	-4.4	49.5	5.22	49.5	5.38	49.5	5.61	49.4	5.86	49.2	6.11	49.2	6.59	49.2	6.97	49.2	7.48
	0.0	-0.4	52.5	5.57	52.4	5.72	52.3	5.95	52.2	6.20	52.0	6.46	51.9	6.93	51.6	7.31	51.2	7.82
	5.0	4.5	56.0	5.99	56.0	6.15	56.0	6.38	55.8	6.63	55.6	6.88	54.3	7.17	52.1	7.15	49.2	7.13
	10.0	9.0	59.9	6.42	59.7	6.57	59.5	6.80	58.9	7.06	58.3	7.31	55.2	7.03	51.8	6.71	47.3	6.29
	15.0	14.0	63.2	6.84	63.2	6.99	63.2	7.22	60.9	7.14	58.6	7.05	55.2	6.67	51.8	6.37	47.3	5.96
	20.0	19.0	70.0	7.47	67.7	7.32	64.3	7.10	61.4	6.87	58.6	6.65	55.2	6.29	51.8	6.00	47.3	5.62
	25.0	23.0	71.0	7.03	68.3	6.89	64.3	6.67	61.4	6.47	58.6	6.26	55.2	5.92	51.8	5.65	47.3	5.29
	30.0	28.0	71.0	6.59	68.3	6.45	64.3	6.25	61.4	6.06	58.6	5.87	55.2	5.55	51.8	5.30	47.3	4.95
	35.0	32.0	71.0	6.14	68.3	6.02	64.3	5.83	61.4	5.65	58.6	5.47	55.2	5.19	51.8	4.94	47.3	4.62
	40.0	36.0	71.0	5.70	68.3	5.58	64.3	5.41	61.4	5.25	58.6	5.08	55.2	4.82	51.8	4.59	47.3	4.28
	45.0	41.0	71.0	5.26	68.3	5.16	64.3	5.00	61.4	4.85	58.6	4.70	55.2	4.46	51.8	4.24	47.3	3.95
	47.0	43.0	71.0	5.12	68.3	5.02	64.3	4.86	61.4	4.72	58.6	4.57	55.2	4.34	51.8	4.13	47.3	3.85
	50.0	46.0	71.0	4.93	68.3	4.83	64.3	4.68	61.4	4.54	58.6	4.40	55.2	4.18	51.8	3.97	47.3	3.70
	55.0	51.0	71.0	4.63	68.3	4.54	64.3	4.40	61.4	4.26	58.6	4.13	55.2	3.92	51.8	3.73	47.3	3.48
	60.0	56.0	71.0	4.31	68.3	4.22	64.3	4.09	61.4	3.97	58.6	3.84	55.2	3.65	51.8	3.47	47.3	3.23
80%	-12.6	-13.0	43.1	3.90	43.1	4.04	43.1	4.23	43.0	4.53	42.9	4.83	42.9	5.47	42.9	5.86	42.9	6.37
	-7.0	-7.6	47.0	4.36	47.0	4.50	47.0	4.70	46.9	5.00	46.7	5.29	46.7	5.91	46.7	6.23	46.7	6.67
	-4.0	-4.4	49.3	4.64	49.3	4.77	49.3	4.97	49.2	5.27	49.0	5.57	48.2	6.17	46.6	6.46	44.4	6.85
	0.0	-0.4	52.3	4.98	52.3	5.11	52.3	5.31	51.9	5.61	51.5	5.91	49.2	6.39	46.3	6.44	42.4	6.50
	5.0	4.5	56.0	5.41	56.0	5.54	56.0	5.74	54.2	6.04	52.5	6.34	49.2	6.26	46.3	6.07	42.4	5.81
	10.0	9.0	61.4	5.83	59.9	5.97	57.6	6.17	55.1	6.26	52.5	6.36	49.2	5.95	46.3	5.76	42.4	5.52
	15.0	14.0	63.5	6.31	61.2	6.39	57.6	6.50	55.1	6.26	52.5	6.02	49.2	5.64	46.3	5.46	42.4	5.22
	20.0	19.0	63.5	6.40	61.2	6.29	57.6	6.12	55.1	5.90	52.5	5.67	49.2	5.32	46.3	5.15	42.4	4.92
	25.0	23.0	63.5	6.01	61.2	5.91	57.6	5.75	55.1	5.54	52.5	5.33	49.2	5.01	46.3	4.84	42.4	4.62
	30.0	28.0	63.5	5.63	61.2	5.53	57.6	5.37	55.1	5.18	52.5	4.99	49.2	4.70	46.3	4.54	42.4	4.32
	35.0	32.0	63.5	5.24	61.2	5.15	57.6	5.00	55.1	4.82	52.5	4.64	49.2	4.39	46.3	4.23	42.4	4.02
	40.0	36.0	63.5	4.86	61.2	4.76	57.6	4.63	55.1	4.47	52.5	4.30	49.2	4.07	46.3	3.92	42.4	3.72
	45.0	41.0	63.5	4.48	61.2	4.39	57.6	4.26	55.1	4.11	52.5	3.97	49.2	3.77	46.3	3.62	42.4	3.43
	47.0	43.0	63.5	4.36	61.2	4.27	57.6	4.15	55.1	4.01	52.5	3.86	49.2	3.67	46.3	3.53	42.4	3.34
	50.0	46.0	63.5	4.20	61.2	4.12	57.6	4.00	55.1	3.86	52.5	3.72	49.2	3.53	46.3	3.40	42.4	3.22
	55.0	51.0	63.5	3.94	61.2	3.86	57.6	3.75	55.1	3.62	52.5	3.49	49.2	3.32	46.3	3.19	42.4	3.02
	60.0	56.0	63.5	3.66	61.2	3.59	57.6	3.49	55.1	3.37	52.5	3.24	49.2	3.08	46.3	2.97	42.4	2.81

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).



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
70%	-12.6	-13.0	43.1	3.72	43.1	3.93	43.1	4.24	43.0	4.57	42.9	4.89	41.9	5.54	39.7	5.93	36.8	6.45
	-7.0	-7.6	46.4	4.19	46.4	4.39	46.4	4.70	45.4	5.06	44.5	5.42	42.0	5.94	39.6	6.18	36.4	6.49
	-4.0	-4.4	48.3	4.46	48.3	4.67	48.3	4.97	46.4	5.35	44.5	5.73	42.0	6.18	39.6	6.32	36.4	6.51
	0.0	-0.4	51.8	4.80	50.7	5.01	49.0	5.32	46.7	5.72	44.5	6.12	42.0	6.14	39.6	6.03	36.4	5.90
	5.0	4.5	53.8	5.23	51.8	5.44	49.0	5.74	46.7	5.92	44.5	6.10	42.0	5.81	39.6	5.70	36.4	5.56
	10.0	9.0	53.8	5.66	51.9	5.86	49.0	6.17	46.7	5.96	44.5	5.76	42.0	5.48	39.6	5.37	36.4	5.21
	15.0	14.0	53.8	6.37	51.9	6.19	49.0	5.92	46.7	5.67	44.5	5.42	42.0	5.16	39.6	5.04	36.4	4.88
	20.0	19.0	53.8	5.95	51.9	5.79	49.0	5.54	46.7	5.31	44.5	5.08	42.0	4.83	39.6	4.70	36.4	4.53
	25.0	23.0	53.8	5.55	51.9	5.39	49.0	5.16	46.7	4.95	44.5	4.74	42.0	4.50	39.6	4.37	36.4	4.18
	30.0	28.0	53.8	5.14	51.9	5.00	49.0	4.79	46.7	4.59	44.5	4.40	42.0	4.18	39.6	4.03	36.4	3.84
	35.0	32.0	53.8	4.73	51.9	4.60	49.0	4.41	46.7	4.23	44.5	4.06	42.0	3.85	39.6	3.70	36.4	3.50
	40.0	36.0	53.8	4.32	51.9	4.21	49.0	4.04	46.7	3.88	44.5	3.72	42.0	3.53	39.6	3.37	36.4	3.16
	45.0	41.0	53.8	3.93	51.9	3.82	49.0	3.67	46.7	3.53	44.5	3.39	42.0	3.21	39.6	3.04	36.4	2.83
	47.0	43.0	53.8	3.82	51.9	3.72	49.0	3.57	46.7	3.43	44.5	3.30	42.0	3.12	39.6	2.96	36.4	2.75
	50.0	46.0	53.8	3.68	51.9	3.58	49.0	3.44	46.7	3.31	44.5	3.17	42.0	3.01	39.6	2.85	36.4	2.65
	55.0	51.0	53.8	3.45	51.9	3.36	49.0	3.23	46.7	3.10	44.5	2.98	42.0	2.82	39.6	2.68	36.4	2.49
	60.0	56.0	53.8	3.21	51.9	3.13	49.0	3.00	46.7	2.89	44.5	2.77	42.0	2.62	39.6	2.49	36.4	2.31
60%	-12.6	-13.0	39.7	3.78	39.7	3.98	39.7	4.27	39.0	4.65	38.2	5.03	35.9	5.70	34.0	6.10	31.3	6.63
	-7.0	-7.6	42.9	4.24	42.6	4.44	42.1	4.73	40.1	5.12	38.2	5.51	35.9	5.79	34.0	6.04	31.3	6.38
	-4.0	-4.4	45.8	4.52	44.3	4.72	42.1	5.01	40.1	5.40	38.2	5.79	35.9	5.87	34.0	5.72	31.3	5.53
	0.0	-0.4	46.1	4.86	44.5	5.06	42.1	5.35	40.1	5.60	38.2	5.85	35.9	5.65	34.0	5.45	31.3	5.20
	5.0	4.5	46.1	5.29	44.5	5.48	42.1	5.78	40.1	5.65	38.2	5.53	35.9	5.32	34.0	5.13	31.3	4.88
	10.0	9.0	46.1	6.00	44.5	5.91	42.1	5.78	40.1	5.49	38.2	5.20	35.9	4.99	34.0	4.81	31.3	4.56
	15.0	14.0	46.1	5.83	44.5	5.66	42.1	5.41	40.1	5.14	38.2	4.88	35.9	4.67	34.0	4.49	31.3	4.25
	20.0	19.0	46.1	5.44	44.5	5.27	42.1	5.03	40.1	4.79	38.2	4.54	35.9	4.34	34.0	4.16	31.3	3.92
	25.0	23.0	46.1	5.05	44.5	4.90	42.1	4.66	40.1	4.43	38.2	4.21	35.9	4.01	34.0	3.84	31.3	3.60
	30.0	28.0	46.1	4.67	44.5	4.52	42.1	4.28	40.1	4.08	38.2	3.88	35.9	3.69	34.0	3.51	31.3	3.28
	35.0	32.0	46.1	4.29	44.5	4.14	42.1	3.91	40.1	3.73	38.2	3.56	35.9	3.36	34.0	3.19	31.3	2.96
	40.0	36.0	46.1	3.91	44.5	3.76	42.1	3.54	40.1	3.38	38.2	3.23	35.9	3.03	34.0	2.86	31.3	2.64
	45.0	41.0	46.1	3.53	44.5	3.39	42.1	3.18	40.1	3.04	38.2	2.91	35.9	2.72	34.0	2.55	31.3	2.34
	47.0	43.0	46.1	3.44	44.5	3.30	42.1	3.09	40.1	2.96	38.2	2.83	35.9	2.64	34.0	2.49	31.3	2.27
	50.0	46.0	46.1	3.31	44.5	3.18	42.1	2.98	40.1	2.85	38.2	2.73	35.9	2.55	34.0	2.39	31.3	2.19
	55.0	51.0	46.1	3.11	44.5	2.98	42.1	2.80	40.1	2.68	38.2	2.56	35.9	2.39	34.0	2.25	31.3	2.06
	60.0	56.0	46.1	2.89	44.5	2.78	42.1	2.60	40.1	2.49	38.2	2.38	35.9	2.22	34.0	2.09	31.3	1.91
50%	-12.6	-13.0	38.5	3.42	37.1	3.72	35.0	4.18	33.4	4.58	31.9	4.97	30.0	5.24	28.2	5.50	25.9	5.84
	-7.0	-7.6	38.5	3.88	37.1	4.18	35.0	4.64	33.4	4.88	31.9	5.12	30.0	5.31	28.2	5.05	25.9	4.70
	-4.0	-4.4	38.5	4.15	37.1	4.46	35.0	4.92	33.4	5.16	31.9	5.40	30.0	5.11	28.2	4.86	25.9	4.53
	0.0	-0.4	38.5	4.49	37.1	4.80	35.0	5.26	33.4	5.23	31.9	5.20	30.0	4.88	28.2	4.64	25.9	4.31
	5.0	4.5	38.5	5.23	37.1	5.23	35.0	5.22	33.4	5.05	31.9	4.88	30.0	4.58	28.2	4.35	25.9	4.05
	10.0	9.0	38.5	5.47	37.1	5.24	35.0	4.89	33.4	4.72	31.9	4.56	30.0	4.28	28.2	4.07	25.9	3.78
	15.0	14.0	38.5	5.10	37.1	4.89	35.0	4.56	33.4	4.40	31.9	4.25	30.0	3.99	28.2	3.79	25.9	3.52
	20.0	19.0	38.5	4.72	37.1	4.52	35.0	4.22	33.4	4.07	31.9	3.92	30.0	3.69	28.2	3.50	25.9	3.24
	25.0	23.0	38.5	4.34	37.1	4.16	35.0	3.89	33.4	3.75	31.9	3.60	30.0	3.39	28.2	3.21	25.9	2.98
	30.0	28.0	38.5	3.97	37.1	3.80	35.0	3.55	33.4	3.42	31.9	3.29	30.0	3.09	28.2	2.93	25.9	2.71
	35.0	32.0	38.5	3.59	37.1	3.44	35.0	3.22	33.4	3.09	31.9	2.97	30.0	2.79	28.2	2.64	25.9	2.44
	40.0	36.0	38.5	3.21	37.1	3.08	35.0	2.88	33.4	2.77	31.9	2.65	30.0	2.50	28.2	2.36	25.9	2.17
	45.0	41.0	38.5	2.85	37.1	2.74	35.0	2.56	33.4	2.45	31.9	2.34	30.0	2.21	28.2	2.09	25.9	1.92
	47.0	43.0	38.5	2.78	37.1	2.66	35.0	2.49	33.4	2.39	31.9	2.28	30.0	2.15	28.2	2.03	25.9	1.86
	50.0	46.0	38.5	2.67	37.1	2.56	35.0	2.40	33.4	2.30	31.9	2.20	30.0	2.07	28.2	1.95	25.9	1.80
	55.0	51.0	38.5	2.51	37.1	2.41	35.0	2.25	33.4	2.16	31.9	2.06	30.0	1.95	28.2	1.83	25.9	1.69
	60.0	56.0	38.5	2.33	37.1	2.24	35.0	2.10	33.4	2.01	31.9	1.92	30.0	1.81	28.2	1.71	25.9	1.57

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).

CORRECTION FACTORS

[Defrost Correction Factor for Heating Operation on page 105](#)

[Elevation Correction Factors on page 105](#)

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 11: 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

¹At 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 12: Multi V S Cooling Correction Factors.

Elevation Differences (ft.)	Equivalent Length (ELF) ¹											
	25	33	66	98	131	164	197	230	263	295	328	≥361
<i>HU—Indoor units above Outdoor Unit (ft.)</i>												
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	0.95	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
<i>HL—Outdoor Unit Above Indoor Units (ft.)</i>												
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

¹ ELF = Equivalent Pipe Length—Sum of the actual pipe length plus allocations for pressure drop through elbows, valves, and other fittings in equivalent length.

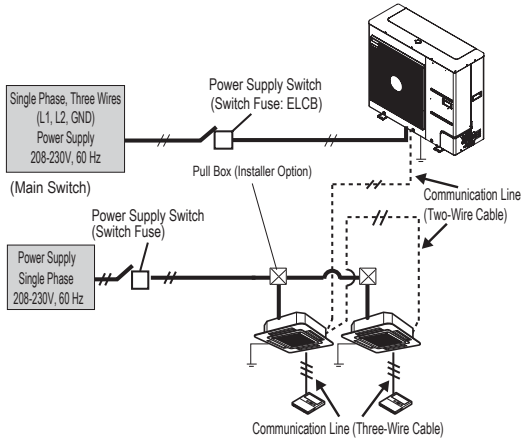
ELECTRICAL CONNECTIONS

Electrical Connections on page 107

**DIP Switch Settings For Use With Gen4 Indoor Units on
page 110**

ELECTRICAL CONNECTIONS

Figure 28: Multi V S ARUN024GSS4 Heat Pump System Power Wiring / Communications Cable 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 29: Multi V S ARUN038, 048, 053, 060GSS4 Heat Pump System Power Wiring / Communications Cable Connections.

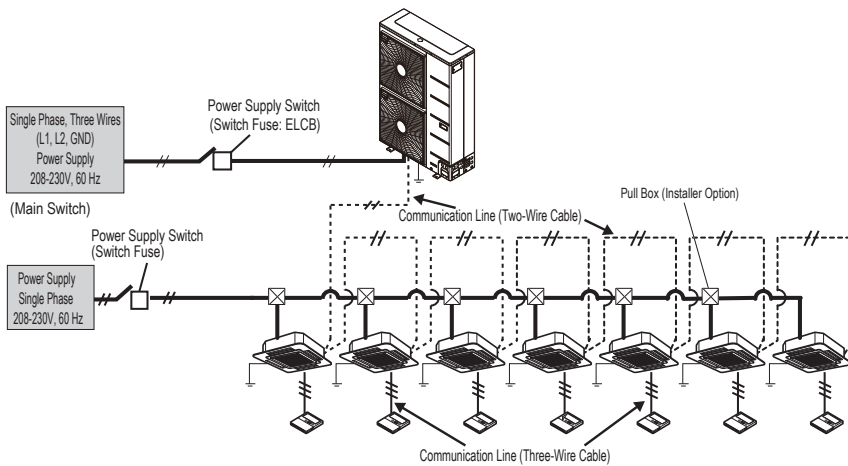
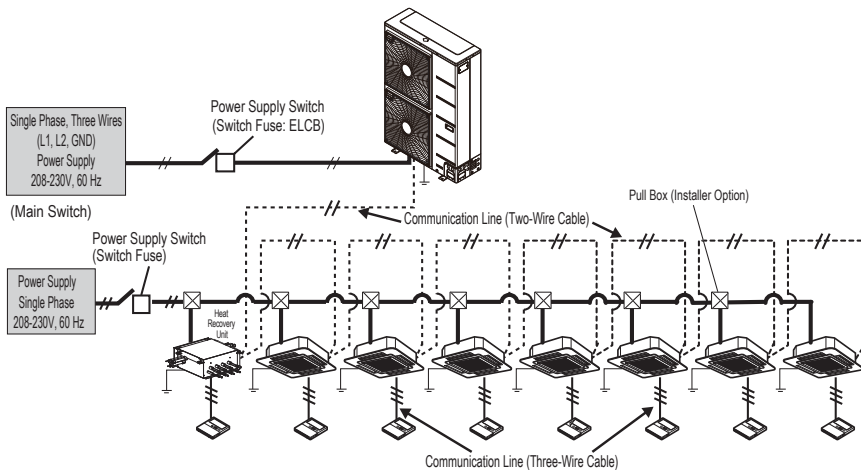


Figure 30: Multi V S ARUB060GSS4 Heat Recovery System Power Wiring / Communications Cable Connections.



⚠ 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.

ELECTRICAL CONNECTIONS

- 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 31: Communications Wiring Terminals.

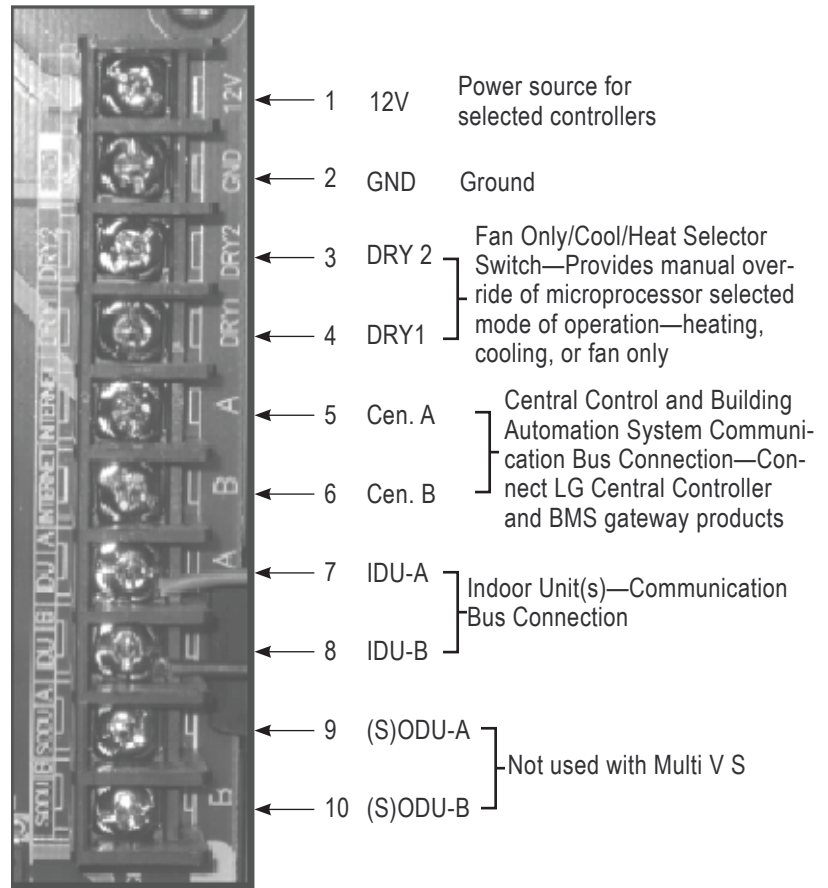
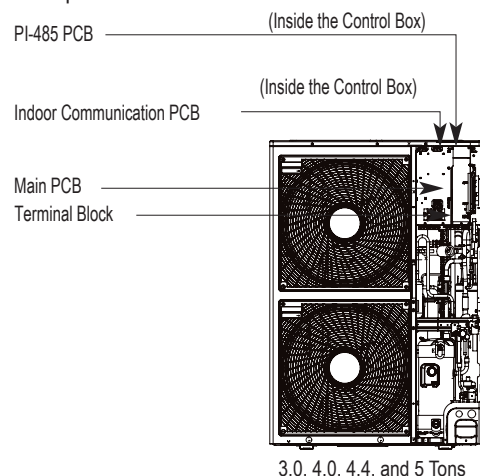


Figure 32: Multi V S ARUN038, 048, 053, 060GSS4 and ARUB060GSS4 Electrical Component Location.



*Presentation May Differ Depending on the Model

ELECTRICAL CONNECTIONS

Figure 33: Multi V S ARUN024GSS4 Heat Pump System Daisy-Chain Power Wiring / Communications Cable Example.

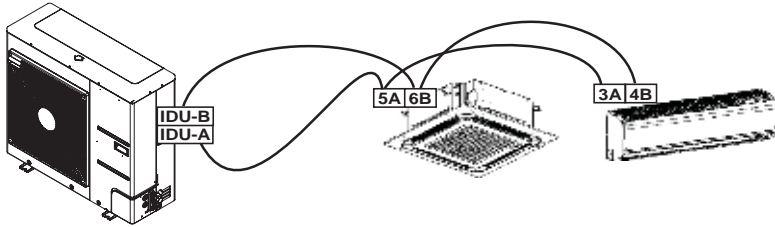


Figure 34: Multi V S ARUN034, 048, 053, 060GSS4 Heat Pump System Daisy-Chain Power Wiring / Communications Cable Example.

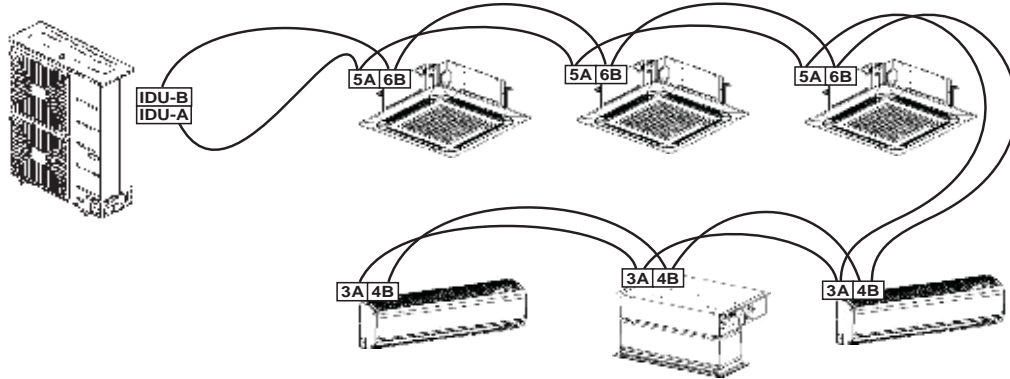
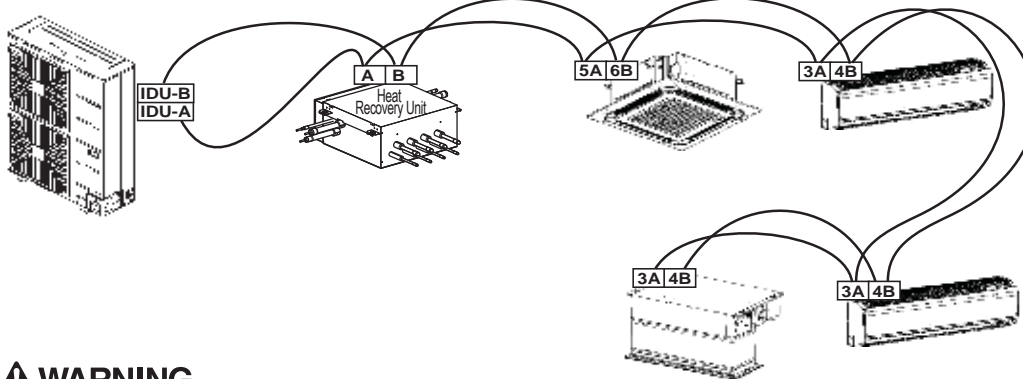


Figure 35: Multi V S ARUB060GSS4 Heat Recovery System Daisy-Chain Power Wiring / Communications Cable Example.



⚠ 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.

DIP SWITCH SETTINGS FOR USE WITH GEN4 INDOOR UNITS

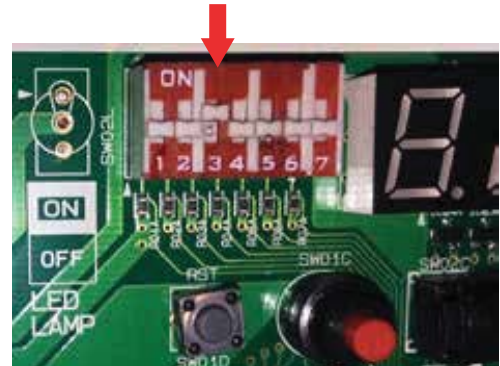
Generation 4 Equipment

The latest versions of 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 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.

Figure 36: Location and Setting of Outdoor Unit DIP Switch 3.

Air/Water Source Unit DIP Switch No. 3



The figure at right shows the outdoor unit DIP switch. The "System Component Combinations and Operation Status" table lists how combining different components will affect system operation. The "Serial Numbers or Air / Water Source Units with Gen 4 or Higher Software" table lists the serial numbers of air and water source units that have Gen 4 or higher software. 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.

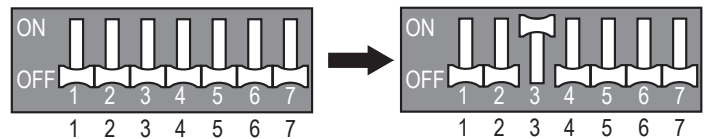


Table 13: System Component Combinations and Operation Status.

Air / Water Source Units*	Indoor Unit(s)**	Heat Recovery Unit(s)	Outdoor Unit DIP Switch No. 3	Operation Status
Gen 4 or Higher	Gen 4 ONLY	Model 2A ONLY	Must be ON	System will operate WITH Gen. 4 indoor unit features.
Gen 4 or Higher	Gen 4 ONLY	Model 2A ONLY	OFF	System will operate but WITHOUT Gen. 4 indoor unit features.
Gen 4 or Higher	Gen 4 ONLY	Any combination of Models 1A, 2A	Must be OFF (factory default)	Does NOT include Gen. 4 features. System will not operate if DIP Switch No. 3 is ON, and an error code will be generated.
Gen 4 or Higher	Any combination of Gen 2 and Gen 4	Model 2A ONLY	Must be OFF (factory default)	
Gen 4 or Higher	Any combination of Gen 2 and Gen 4	Any combination of Models 1A, 2A	Must be OFF (factory default)	
Gen 2	Any combination of Gen 2 and Gen 4	Any combination of Models 0A****, 1A, 2A	N/A***	Does not include Gen. 4 features.

*Gen 4 or Higher Air / Water Source Units = Multi V 5, Multi V IV or Multi V Water IV with Gen 4 or Higher software (see table below for Gen 4 or higher serial numbers) or Multi V S.

Gen 2 Air / Water Source Units = Multi V II, Multi V III, Multi V IV without Gen. 4 software, Multi V Water II, Multi V Water IV without Gen. 4 software, Multi V Mini, Multi V Water Mini, or Multi V Space II.

**Gen 4 Indoor Units model numbers end in "4"; Gen 2 Indoor Units model numbers end in "2" or an "A", including Hydro Kit.

***DIP Switch No. 3 on Gen 2 air / water source units is not related to Gen 4 features as it is with Gen 4 air / water source units.

****0A Model Heat Recovery units are not for use with Multi V 5, Multi V IV, Multi V Water IV, or Multi V III heat recovery systems.

Table 14: Serial Numbers of Air / Water Source Units with Gen 4 or Higher Software.

Air / Water Source Unit Model Type	Multi V Air Source Heat Pump	Multi V Air Source Heat Recovery	Multi V IV Water Source Heat Pump	Multi V IV Water Source Heat Recovery
Serial Number of Air / Water Source Units with Gen 4 or Higher Software	502***** and Higher	503***** and Higher	504***** and Higher	

PIPING LIMITATIONS AND PLACEMENT CONSIDERATIONS

Piping Limitations on page 112

**Selecting the Best Location for Outdoor Unit(s) on
page 116**

Outdoor Unit Clearance Requirements on page 118

Installing Outdoor Units Indoors on page 121

**Selecting the Best Location / Clearance Requirements
for Heat Recovery Unit(s) on page 123**

PIPING LIMITATIONS



For Heat Pump Systems

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

Figure 37: Typical Multi V S Heat Pump System Building Layout Listing the Piping Limitations — When the Outdoor Unit is Above the Indoor Units.

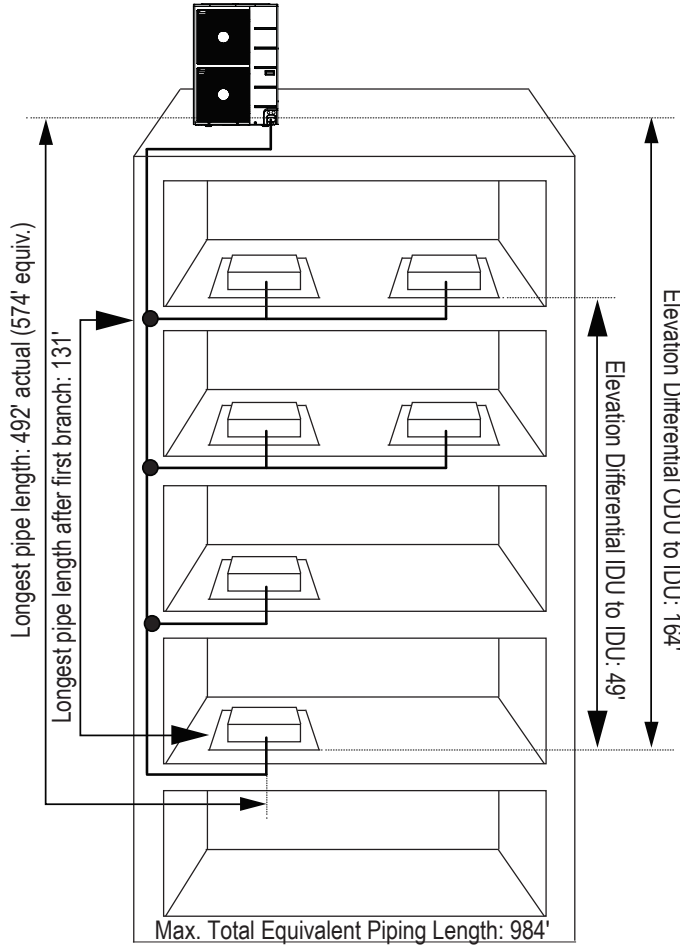


Figure 38: Typical Multi V S Heat Pump System Building Layout Listing the Piping Limitations — When the Outdoor Unit is Below the Indoor Units.

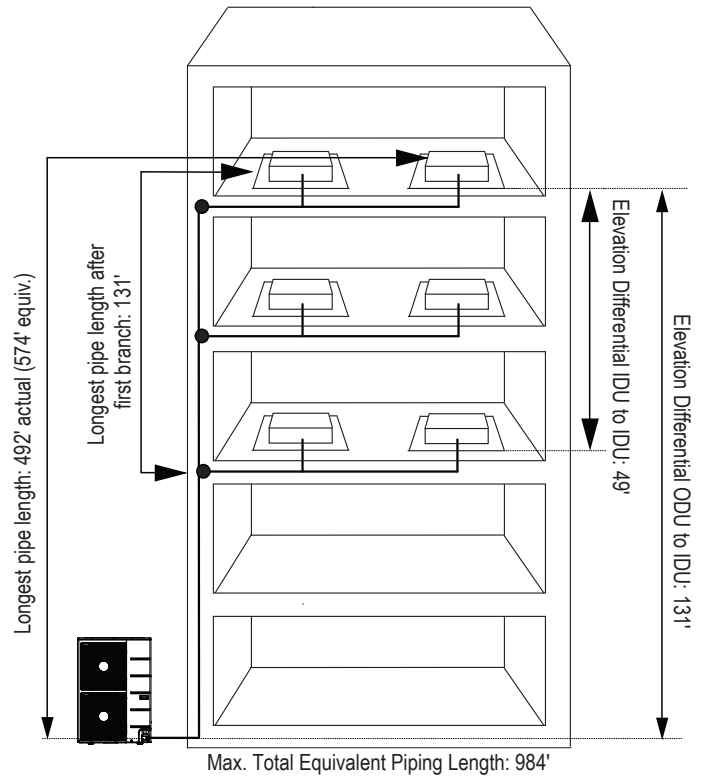


Table 15: Piping Limitations for Heat Pump Systems (ARUN024, 038, 048, 053, 060GSS4) (See next page).

Length	Total pipe length		Longest actual pipe length		Equivalent pipe length ¹	
	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			

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



Following pages present Multi V S 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: Five (5) indoor units connected Multi V S 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 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.

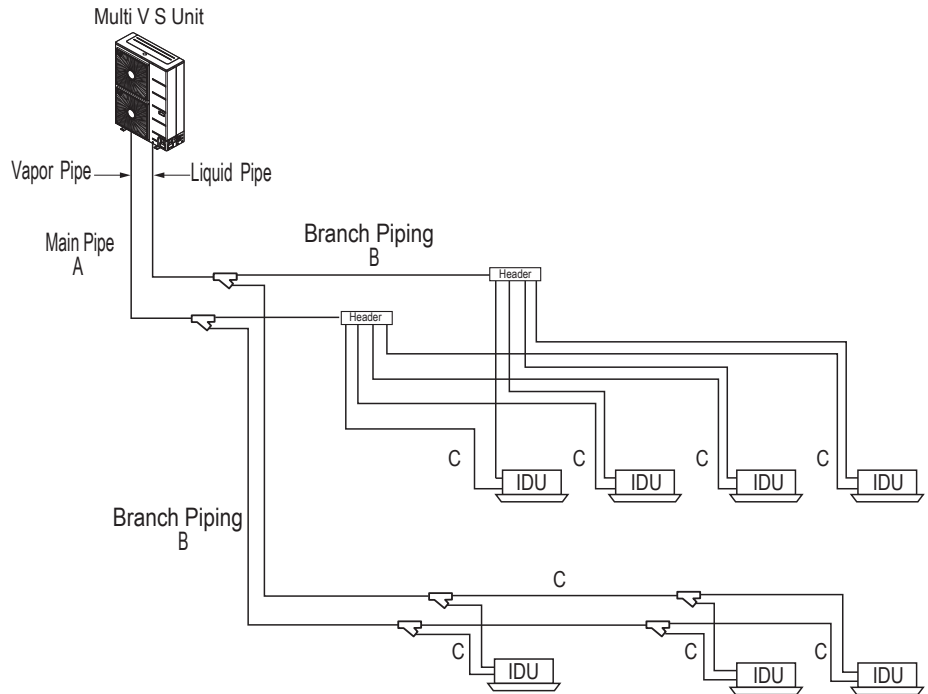


Table 16: Main Pipe (A) Diameters from Outdoor Unit to First Y-branch.

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)
2.0	3/8Ø	5/8Ø	1/2Ø	3/4Ø
3.0	3/8Ø	5/8Ø	1/2Ø	3/4Ø
4.0	3/8Ø	5/8Ø	1/2Ø	3/4Ø
4.4	3/8Ø	3/4Ø	1/2Ø	7/8Ø
5.0	3/8Ø	3/4Ø	1/2Ø	7/8Ø

Table 17: 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
≤76,400	3/8Ø	3/4Ø

¹9,600-24,200 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).

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
≤76,400	3/8Ø	3/4Ø

¹9,600-24,200 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.

When one or both conditions listed below are present, the diameter of main pipe (A) must be increased.

- If equivalent length between the outdoor unit and the farthest indoor unit is ≥295 feet, the diameters of the liquid and vapor pipes must be sized up.
- If elevation differential between the outdoor unit and the farthest indoor unit is ≥164 feet, the diameter of only the liquid pipe must be sized up.

PIPING LIMITATIONS



For Heat Recovery Systems

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

Figure 39: Typical Multi V S Heat Recovery ARUB060GSS4 System Building Layout Listing the Piping Limitations — When the Outdoor Unit is Above the Indoor Units.

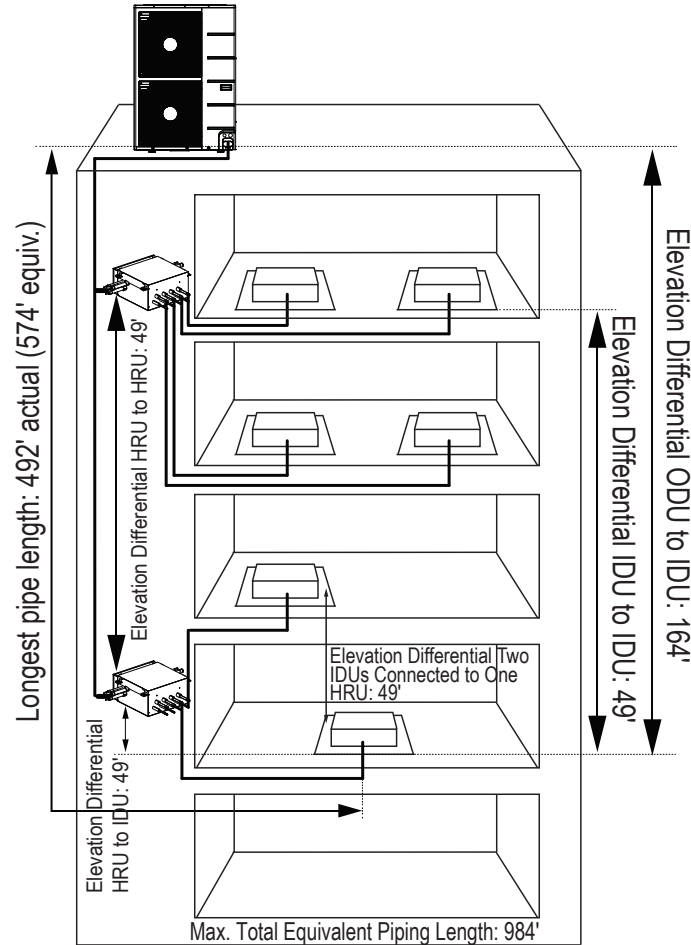


Figure 40: Typical Multi V S Heat Recovery ARUB060GSS4 System Building Layout Listing the Piping Limitations — When the Outdoor Unit is Below the Indoor Units.

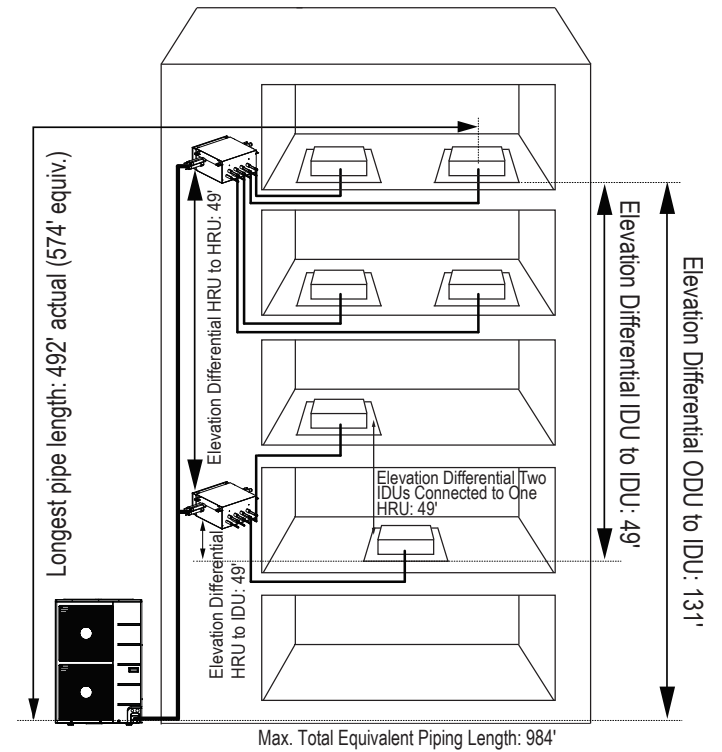


Table 19: Piping Limitations for ARUB060GSS4 Heat Recovery Systems (See next page).

Length	Total pipe length	Longest actual pipe length	Equivalent pipe length
		$A + \Sigma B + \Sigma C \leq 984$ feet	≤ 492 feet
ℓ	Longest pipe length after first branch		
	≤ 131 feet		
Elevation1	Elevation differential (Outdoor Unit ↔ Indoor Unit)		
	Height ≤ 164 feet (Outdoor Unit Above Indoor Unit); Height ≤ 131 feet (Outdoor Unit Below Indoor Unit);		
Elevation2	Elevation differential (Indoor Unit ↔ Indoor Unit)		
	height ≤ 49 feet		
Elevation3	Elevation differential (Indoor Unit ↔ Heat Recovery Unit)		
	49 feet		
Elevation4	Elevation differential (Indoor Unit ↔ Indoor Unit [connected to same Heat Recovery Unit])		
	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 Heat Recovery Units if installed with a Y-branch		≤ 49 feet	
Height differential between two series-piped Heat Recovery Units		≤ 16 feet	



Following pages present Multi V S 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: Heat recovery system with four (4) heat recovery units, one (1) header, and twelve (12) indoor units connected

ODU: Outdoor Units.

HRU: Heat Recovery Units.


IDU: Indoor units.

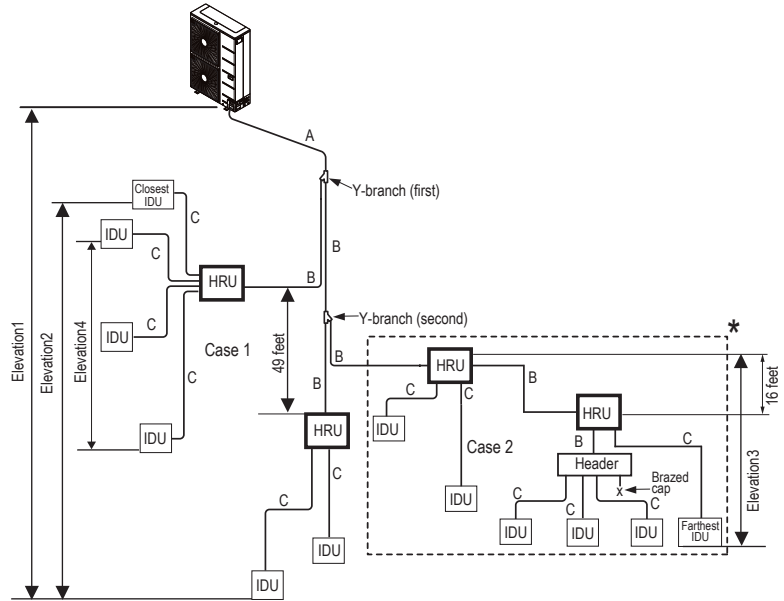
A: Main Pipe from Outdoor Unit to First Y-branch.

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

C: Heat Recovery Unit / 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 units 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.
- If large capacity indoor units (>12,000 Btu/h with piping sizes >5/8Ø / 3/8Ø) are installed, the valve group setting must be used. (Refer to the PCB of the heat recovery unit for the valve group control setting.)



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 20: Main Pipe (A) Diameters from ARUB060GSS4 Heat Recovery Outdoor Unit 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 21: 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
<76,400	3/8Ø	3/4Ø

Table 22: 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
≤76,400	3/8Ø	3/4Ø

¹9,600-24,200 Btu/h 4-way 3 feet x 3 feet Cassette and 15,400-24,200 Btu/h High Static Ducted IDUs have 3/8Ø (liquid) and 5/8Ø (vapor).

Conditional Applications

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

When one or both conditions listed below are present, the diameter of main pipe (A) must be increased.

- If equivalent length between the outdoor unit and the farthest indoor unit is ≥295 feet, the diameters of the liquid, high pressure vapor, and low pressure vapor pipes must be sized up.
- If elevation differential between the outdoor unit and the farthest indoor unit is ≥164 feet, the diameter of only the liquid pipe must be sized up.

Selecting the Best Location for the Outdoor Unit(s)

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).

Don'ts

- 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.

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".

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.

Figure 41: Prevailing Wind Direction.

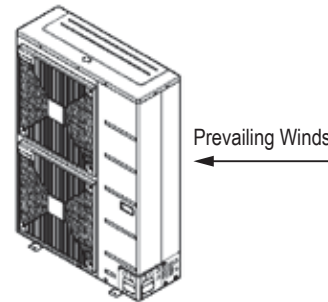
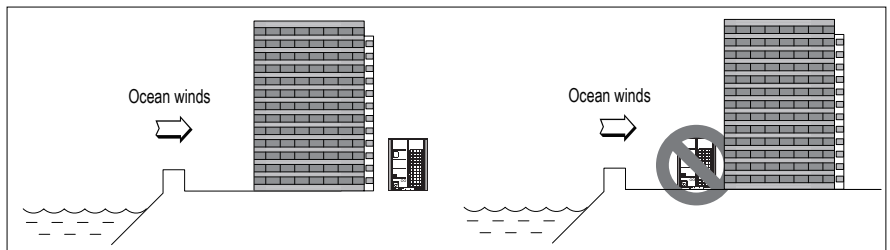
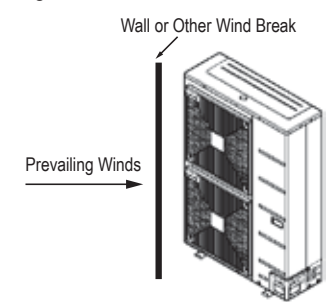


Figure 42: Leeward Side of the Building.

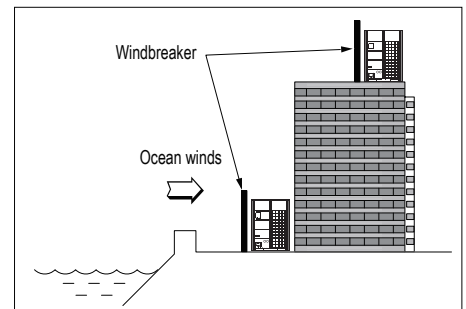


Figure 43: Wind Break.



Note:

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



PLACEMENT CONSIDERATIONS

Outdoor Unit Clearance Requirements

Minimum Clearance Requirements for Multi V S 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 as illustrated in the diagrams below and on the next few pages.

Minimum Clearance Requirements for the Multi V S 24K Outdoor Unit

Specific clearance requirements in the diagram below are for Multi V S 24,000 Btu/h (ARUN024GSS4) systems. Figure 44 shows the overall minimum clearances that must be observed for safe operation and adequate airflow around the outdoor unit.

When placing the outdoor unit under an overhang, awning, sunroof or other “roof-like structure”, observe the clearance requirements (as shown in Cases 1 and 2 in Figure 44 for height in relation to the unit. This clearance ensures that heat radiation from the condenser is not restricted around the unit.

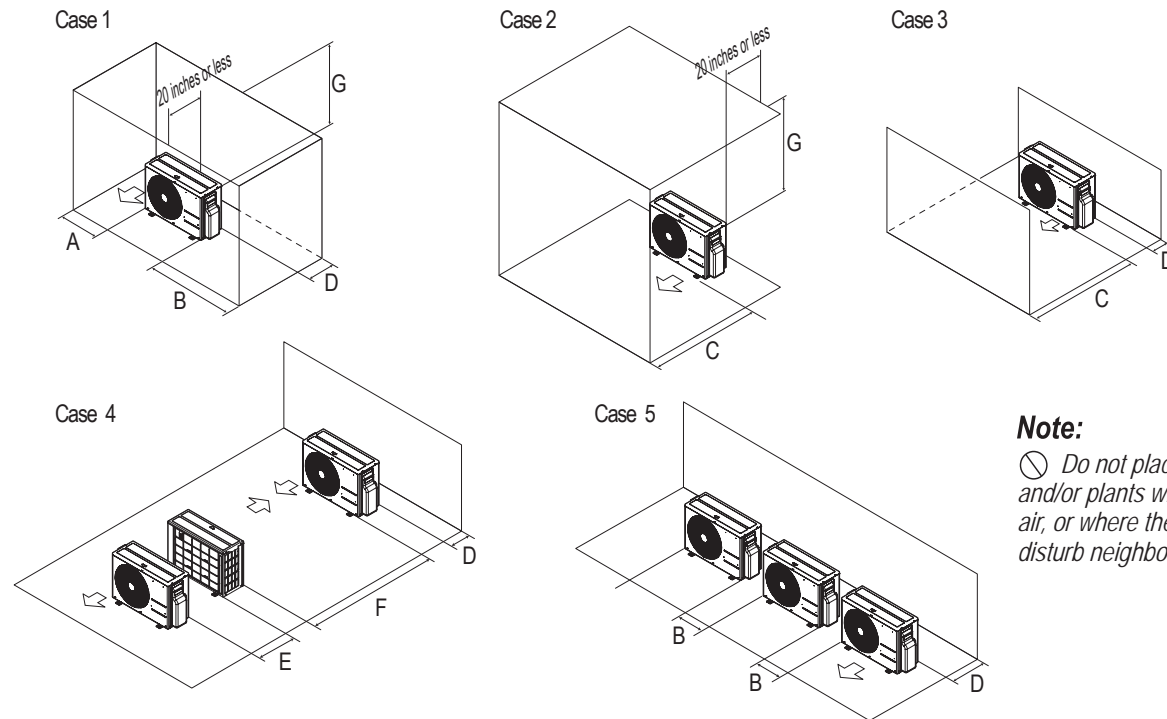
Adhere to all clearance requirements if installing the unit on a roof. Be sure to level the unit and ensure that the unit is adequately anchored. Consult local codes for rooftop mounting requirements.

To have successful service access to the outdoor unit, see Figure 44 for minimum spacing. When installing multiple outdoor units, see Cases 4 and 5 in Figure 44 for correct spacing requirements.

Note:

If the outdoor unit is installed between standard and minimum clearances, capacity decreases approximately 10%.

Figure 44: Outdoor Unit Service Access and Allowable Clearances Diagram.



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.

Table 23: 24K Outdoor Unit Service Access and Allowable Clearances Diagram Legend.

Unit: Inch		A	B	C	D	E	F	G
Case 1	Standard	12	24	-	12	-	-	-
	Minimum	4	10	-	4	-	-	40
Case 2	Standard	-	-	20	-	-	-	-
	Minimum	-	-	14	-	-	-	40
Case 3	Standard	-	-	20	12	-	-	-
	Minimum	-	-	14	4	-	-	-
Case 4	Standard	-	-	-	12	24	-	-
	Minimum	-	-	-	4	8	79	-
Case 5	Standard	-	24	-	12	-	-	-
	Minimum	-	10	-	4	-	-	-

Minimum Clearance Requirements for Multi V S 38, 48, 53, and 60K Outdoor Units

Figures below and on the next page illustrate clearance requirements for various installation scenarios for Multi V S 38,000 Btu/h (ARUN038GSS4), 48,000 Btu/h (ARUN048GSS4), 53,000 Btu/h (ARUN053GSS4), and 60,000 (ARUN060GSS4) heat pump outdoor units; and 60,000 Btu/h (ARUB060GSS4) heat recovery outdoor units. 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:

- 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 here or high and low system pressure problems will occur.

Legend

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

Figure 45: Improper Outdoor Unit Placement.

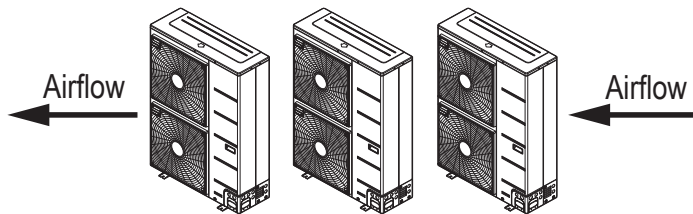


Figure 46: Proper Outdoor Unit Placement and Clearances.

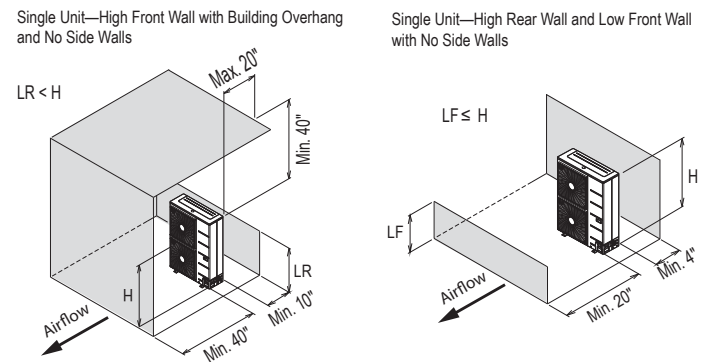
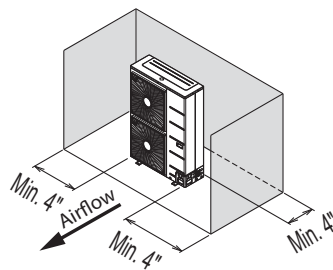
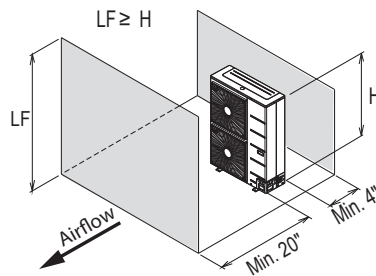


Figure 47: Proper Outdoor Unit Placement and Clearances, continued.

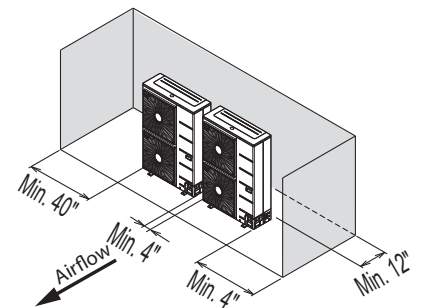
Single Unit—High Rear Wall with or without High Side Walls



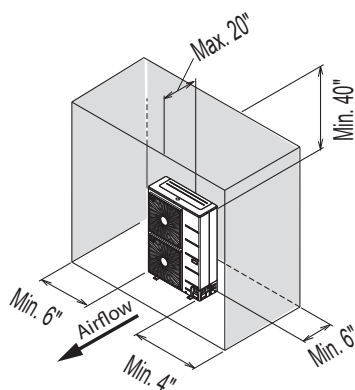
Single Unit—High Rear and Front Walls with No Side Walls



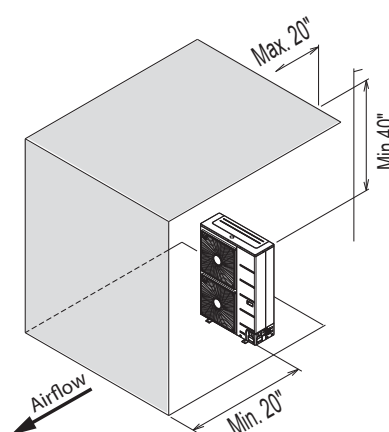
Side by Side—High Rear and Side Walls



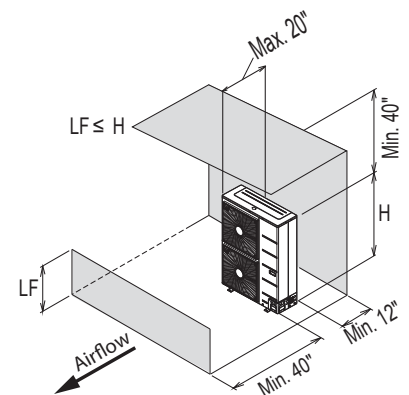
Single Unit—High Rear and Side Walls with Building Overhang



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



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



PLACEMENT CONSIDERATIONS

Outdoor Unit Clearance Requirements

Note:

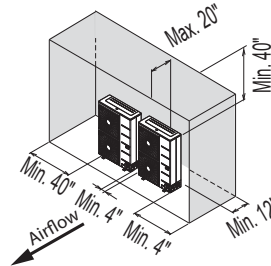
- Installation clearances must comply with local building codes.
- All figures not to scale.

Legend

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

Figure 48: 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

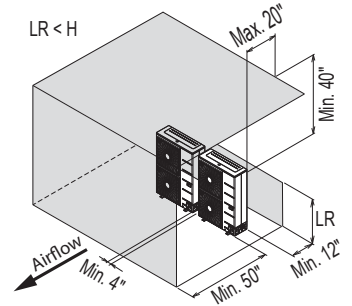
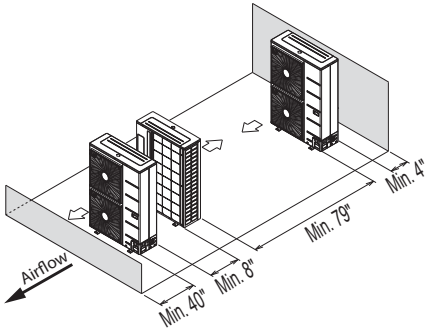
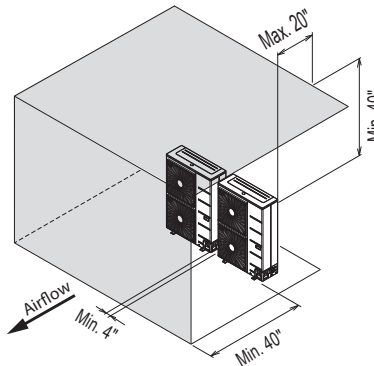


Figure 49: Proper Outdoor Unit Placement and Clearances, continued.

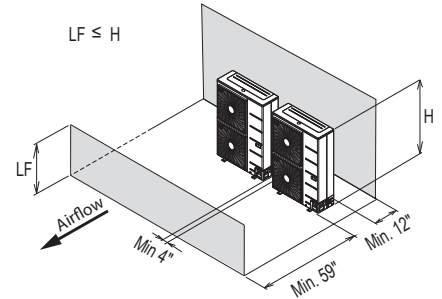
Single Row Units—High Rear Wall and Low Front Wall with No Side Walls or Overhang



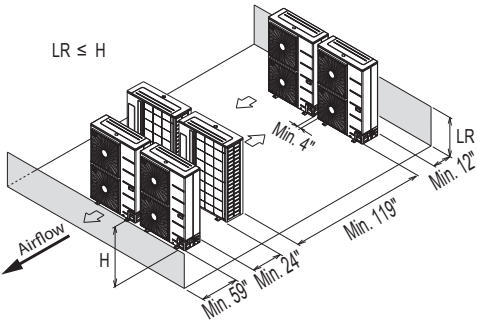
Side by Side—High Front Wall with Building Overhang and No Side or Rear Walls



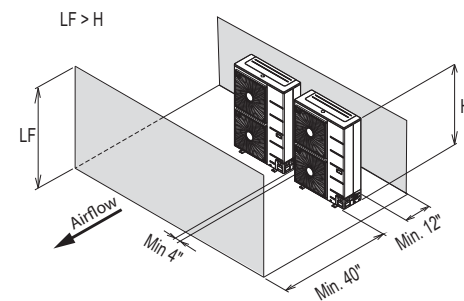
Side by Side—High Rear Wall and Low Front Wall with No Side Walls



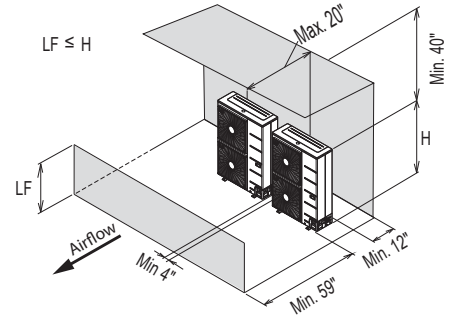
Double Row Units—Low Rear and Front Walls with No Side Walls or Overhang



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



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



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.lg-vrf.com.

Note:

For detailed placement considerations and installation requirements for indoor units, refer to its Indoor Unit Engineering and / or Installation Manuals.

Selecting the Best Location / Clearance Requirements for the Heat Recovery Unit(s)

Note:

Heat recovery units are for use with systems designed for heat recovery operation only (ARUB060GSS4).

Select an installation space for the heat recovery unit that meets the following conditions:

- Install the heat recovery unit indoors in a level and upright position.
- Ensure there is enough space in the installation area for service access.
- Install the heat recovery unit in a location where any sound it will generate will not disturb occupants in the surrounding rooms.
- Install the refrigerant piping and electrical wiring system in an easily accessible location.

⊘ Don't's

- Refrigerant pipes must not exceed lengths specified by LG Electronics.
- Do not install the heat recovery unit in a location where it would be subjected to strong radiation heat from heat sources.
- Avoid an installation environment where oil splattering or vapor spray will occur.
- Avoid an installation environment where high-frequency electric noise could occur.
- Condensate drain piping is not required.

Figure 50: Dimensions for Heat Recovery Units.

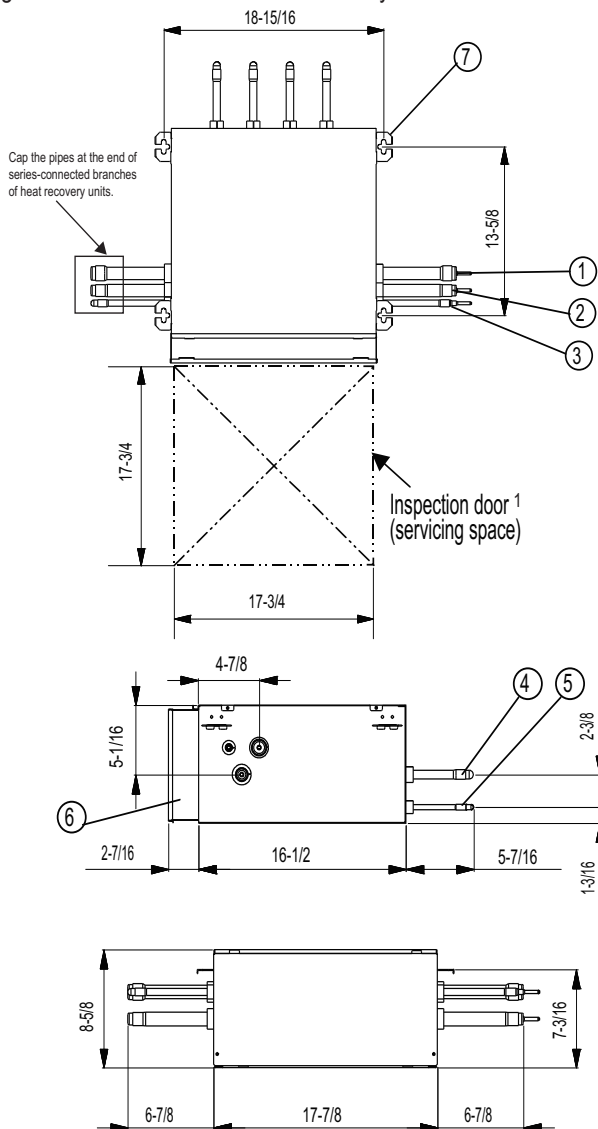


Figure 51: Minimum Service Clearances for Heat Recovery Units.

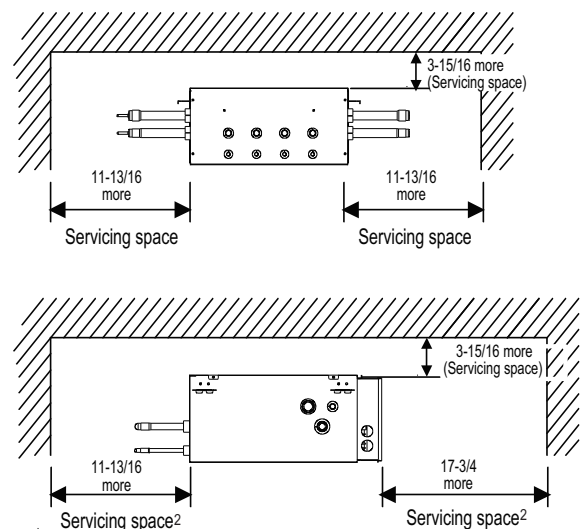


Table 24: Heat Recovery Unit Parts.

Tag No.	Part Name	Connection Size(in./Type)		
		PRHR022A	PRHR032A	PRHR042A
1	Low pressure vapor pipe connection port	7/8 Braze	1-1/8 Braze	1-1/8 Braze
2	High pressure vapor pipe connection port	3/4 Braze	7/8 Braze	7/8 Braze
3	Liquid pipe connection port	3/8 Braze	1/2 Braze	5/8 Braze
4	Indoor unit vapor pipe connection port	5/8 Braze	5/8 Braze	5/8 Braze
5	Indoor unit liquid pipe connection port	3/8 Braze	3/8 Braze	3/8 Braze
6	Control box	-	-	-
7	Hanger bracket	3/8 or 5/16	3/8 or 5/16	3/8 or 5/16

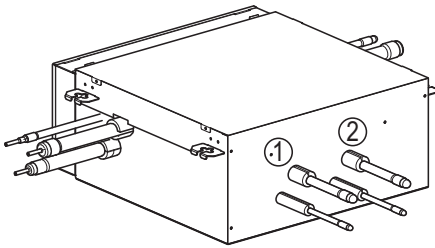
¹Locate the inspection door at the control box side of the heat recovery unit.

²If reducers are used, space for service access must be increased to match the dimensions of the reducer.

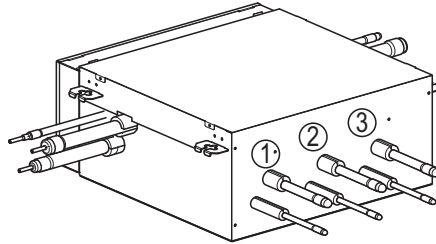
PLACEMENT CONSIDERATIONS

Selecting the Best Location / Clearance Requirements for the Heat Recovery Unit(s)

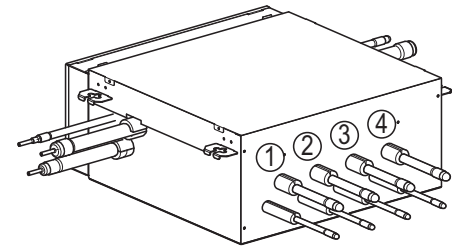
Figure 52: Heat Recovery Unit Types.



PRHR022A (Two [2] ports)



PRHR032A (Three [3] ports)



PRHR042A (Four [4] ports)

1. Each heat recovery unit has a capacity up to 192,000 Btu/h.
2. Heat recovery units connected in series have a total capacity up to 192,000 Btu/h per series string. Series string is defined as heat recovery units piped in series.
3. Elevation difference between heat recovery units connected in series is permitted, but must not exceed 16 feet.
4. Each port on the heat recovery unit has a capacity up to 54,000 Btu/h.
5. Each port can be connected to a maximum of eight (8) indoor units. When multiple indoor units are connected to one port, all indoor units on that port must operate in the same mode (cooling or heating).
6. If an indoor unit larger than 54,000 Btu/h is to be used, two (2) ports must be twinned using a reverse Y-branch.
7. Connect largest indoor unit to first port of the heat recovery unit.
8. Elevation difference between the heat recovery unit and the indoor unit(s) must not exceed 49 feet.

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.

Inverter



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