



SINGLE ZONE WALL MOUNTED ART COOL™ PREMIER ENGINEERING MANUAL

3/4, 1, 1-1/4, 1-1/2, and 2 Tons

Models:

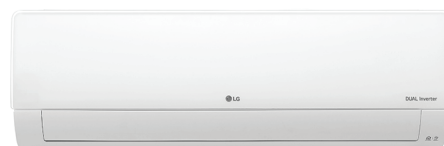
LA090HYV3

LA120HYV3

LA150HYV3

LA180HYV3

LA240HYV3



PROPRIETARY DATA NOTICE

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This document is for design purposes only.**

A summary list of safety precautions is on page 4.

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

Proper sizing and installation of equipment is critical to achieve optimal performance. Split system air conditioners and heat pumps (excluding ductless systems) must be matched with appropriate coil components to meet ENERGY STAR® criteria. Ask your contractor for details or visit www.energystar.gov.

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Duct-Free Split Systems

LG HVAC systems offer a range of solutions that are cost efficient, quiet and attractive. Duct-Free Split systems are "split" into indoor and outdoor units, and provide a smart alternative to both central HVAC and window-mounted air conditioners. These inverter heat pump systems are available in a variety of configurations to suit different cooling and heating situations. Installation by a qualified HVAC contractor is safe and easy – little to no duct work or sheet metal is required.

Inverter Systems

LG Single Zone Wall Mounted Art Cool™ Premier air-source systems offer the opportunity to minimize ductwork in the same configuration. The systems offer zoning without the need for zone damper systems. LG Single Zone Wall Mounted Art Cool Premier systems' advanced controls provide exceptional building dehumidification and temperature control, and can rapidly adapt system operating parameters to the ever changing building load. LG Single Zone Wall Mounted Art Cool Premier systems are easy to design, install, and maintain. The modular design allows occupants to control their environmental condition, providing individualized control of the setpoint temperature and allowing occupants to condition only the occupied zones.

Quality Commitment

LG is committed to the success of Duct-Free Split projects. We provide industry leading technical support during installation and commissioning. LG offers a variety of classes designed for installers and servicers to ensure that every system installation is completed successfully.






Classes are conducted at LG's training centers and in field locations at various times throughout the year and upon special request.



TABLE OF CONTENTS

Introduction.....	5	Maximum Cooling Capacity.....	36-38
Architectural Appeal.....	6	LA090HYV3, LA120HYV3.....	36
Product Features and Benefits	8	LA150HYV3, LA180HYV3.....	37
Unit Nomenclature.....	9	LA240HYV3.....	38
General Data	10-14	Heating Capacity.....	39-41
Electrical Data.....	15	LA090HYV3, LA120HYV3.....	39
Functions, Controls, Options	16	LA150HYV3, LA180HYV3.....	40
Outdoor Unit Dimensions.....	17-18	LA240HYV3.....	41
LAU090HYV3, LAU120HYV3.....	17	Maximum Heating Capacity.....	42-44
LAU150HYV3, LAU180HYV3, LAU240HYV3	18	LA090HYV3, LA120HYV3.....	42
Outdoor Unit Center of Gravity / Corner Weight	19	LA150HYV3, LA180HYV3.....	43
Indoor Unit Dimensions.....	20-21	LA240HYV3.....	44
LAN090HYV3, LAN120HYV3.....	20	Air Flow and Temperature Distribution Graphs.....	45
LAN150HYV3, LAN180HYV3, LAN240HYV3	21	Equipment Selection Procedure	56
Outdoor Unit Acoustic Data.....	22-23	Placement Considerations	57-62
Indoor Acoustic Data.....	24-25	Indoor Unit Clearance/Outdoor Unit Installation	58
Refrigerant Flow Diagrams.....	26-27	Outdoor Unit Clearances.....	59
LAU/LAN090HYV3, LAU/LAN120HYV3.....	26	Installing Outdoor Units Indoors	60-62
LAU/LAN150HYV3, LAU/LAN180HYV3, LAU/LAN240HYV3	27	Refrigerant Piping Design	63-65
Wiring Diagrams	28-30	Design Summary.....	64
LAN090HYV3, LAN120HYV3, LAN150HYV3, LAN180HYV3, LAN240HYV3..	28	Selecting Field-Supplied Copper Tubing	64-65
LAU090HYV3, LAU120HYV3.....	29	Installation & Layout Best Practices	66-69
LAU150HYV3, LAU180HYV3, LAU240HYV3	30	Electrical Connections.....	70
Accessories	31	Mechanical Specifications.....	71-72
Performance Data.....	32-54	Acronyms.....	73
Cooling Capacity	33-36		
LA090HYV3, LA120HYV3.....	33		
LA150HYV3, LA180HYV3.....	34		
LA240HYV3.....	35		

TABLE OF SYMBOLS

 DANGER	<i>This symbol indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.</i>
 WARNING	<i>This symbol indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.</i>
 CAUTION	<i>This symbol indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.</i>
 NOTE	<i>This symbol indicates situations that may result in equipment or property damage accidents only.</i>
Note:	<i>This symbol indicates information related to the current procedure.</i>
	<i>This symbol indicates an action that should not be performed.</i>

INTRODUCTION

[Architectural Appeal on page 6](#)

ARCHITECTURAL APPEAL

Convergence of Technological Innovation with Flexibility and Style

Benefits of Single Zone Wall Mounted Art Cool Premier System

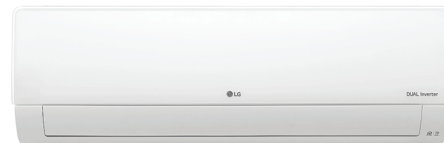
- Available in 9,000, 12,000, 15,000, 18,000, and 24,000 Btu/h
- Inverter technology
- All-season use - heat pump models for both cooling and heating capabilities
- Operating range for outdoor units of 14°F to 118°F (DB) in cooling and -13°F to 65°F (WB) in heating
- Operating range for indoor units of 53°F to 75°F (WB) in cooling and 60°F to 86°F (DB) in heating
- Quiet operation inside and outside
- Duct-free split system



Single Zone Wall Mounted Art Cool Premier Systems

Choosing an LG Single Zone Wall Mounted Art Cool Premier product provides a system designer an edge to engineer a system with individual control, and design flexibility with advanced controls.

These single-zone systems are available in a nominal capacities of 3/4 to 2 tons. These are best suited for applications with zones that require heating or cooling, such as residential, and small business office buildings. Single Zone Wall Mounted Art Cool Premier outdoor and indoor units are available in 208–230V/60Hz/1Ph.



Adaptable and Flexible

Single zone wall mounted split systems allow cooling or heating for the entire residence or just a single room without the need for invasive ductwork. There is minimal renovation needed.

Long refrigerant piping lengths allow for extra design flexibility in indoor unit installation.

These units may be used for a number of residential or commercial environments such as:

- Older homes
- New home construction
- Office buildings
- Restaurants
- Hospitals / Medical facilities
- Schools
- Nursing homes
- Retail establishments
- House of worship

Inverter Technology

Inverter variable-speed duct-free split systems are measurably quieter and consume less energy than conventional air conditioners. The inverter compressor ramps up or down to match the required room capacity and maintain the comfort level. When the selected temperature is reached, the inverter compressor operates at low speed to maintain that comfort level, thereby using less energy.

PRODUCT DATA

Product Features and Benefits on page 8

Unit Nomenclature on page 9

General Data on page 10

Electrical Data on page 15

Functions, Controls, Options on page 16

Outdoor Unit Dimensions on page 17

Outdoor Unit Center of Gravity / Corner Weight on page 19

Indoor Unit Dimensions on page 20

Acoustic Data on page 22

Refrigerant Flow Diagrams on page 26

Indoor Unit Wiring Diagram on page 28

Outdoor Unit Wiring Diagram on page 29

Accessories on page 31

PRODUCT FEATURES AND BENEFITS

Single Zone Wall Mounted Art Cool Premier

Single zone systems are equipped with inverter components that offer superior load matching and long piping installation. The product works for optimizing power consumption in residential and small office buildings. Utilizing multiple indoor wall mount units each with custom temperature controls allow for precise temperature settings in each zone of the building. Single zone systems allow flexibility in interior design and complement any decor.

Low Sound Levels

When outdoor units run at full load, they have a quiet operating sound level. To promote a quiet, comfortable environment, the LG single zone system indoor units operate at sound levels as low as 26 dB(A) (22 dB(A) in sleep mode) and the outdoor units as low as 48 dB(A) at full load. All rotating components are soft-started by the controller using digitally controlled inverters, which reduce undesirable noise caused by fans and compressors cycling on and off.

Comfort Control at Its Best

Unlike traditional air conditioning control systems, which use thermostatic controls to maintain room temperatures, LG single zone inverter controls continuously vary the indoor unit fan speed and refrigerant flow.

LG single zone one-to-one systems continuously measure the room temperatures and adjust system operations accordingly to maintain set temperature.

The outdoor unit responds by varying the compressor speed and outdoor fan motors as needed to maintain system operating pressure. As a result, the single zone systems deliver targeted space temperature control.

Inverter Driven

The twin rotary compressors are optimized to maximize compressor efficiency, which reduces power consumption and monthly

utility bills. This latest inverter technology allows single zone system outdoor units to vary the compressor motor shaft speed to deliver an appropriate amount of cooling to the indoor unit. Precise refrigerant volume delivery translates into long periods with coil surface temperatures below dew point and minimizes compressor and fan component run time which may lead to lower utility usage.

Simplified Installation

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

Operating Range

Single zone systems have a nominal capacity range of 3/4 to 2 tons (depending on outdoor/indoor units).

Outdoor unit operating ranges for single zone systems:

Cooling: 14°F DB to 118°F DB

Heating: -13°F WB to 65°F WB

(Installing an optional Low Ambient Wind Baffle Kit will allow operation down to 0°F in cooling mode for these single zone systems.)

Compact Size

Single zone outdoor units have the following footprint:

LAU090HYV3, LAU120HYV3:
(WxHxD [in.]) 34-1/4 x 25-19/32 x 13.

LAU150HYV3, LAU180HYV3, LAU240HYV3
(WxHxD [in.]) 37-13/32 x 32-3/4 x 13.



Fin Design with GoldFin™ Coating

All single zone outdoor units are provided with large surface coils made of copper tubes with louvered aluminum fins designed to maximize unit operating efficiency over a wide range of ambient conditions.

Standard from the factory, every single zone outdoor unit coil fin surface is coated with LG's exclusive GoldFin™ anti-corrosive coating designed to prevent natural surface corrosion of the aluminum fins. This maintains heat transfer properties of the coil for an extended time.

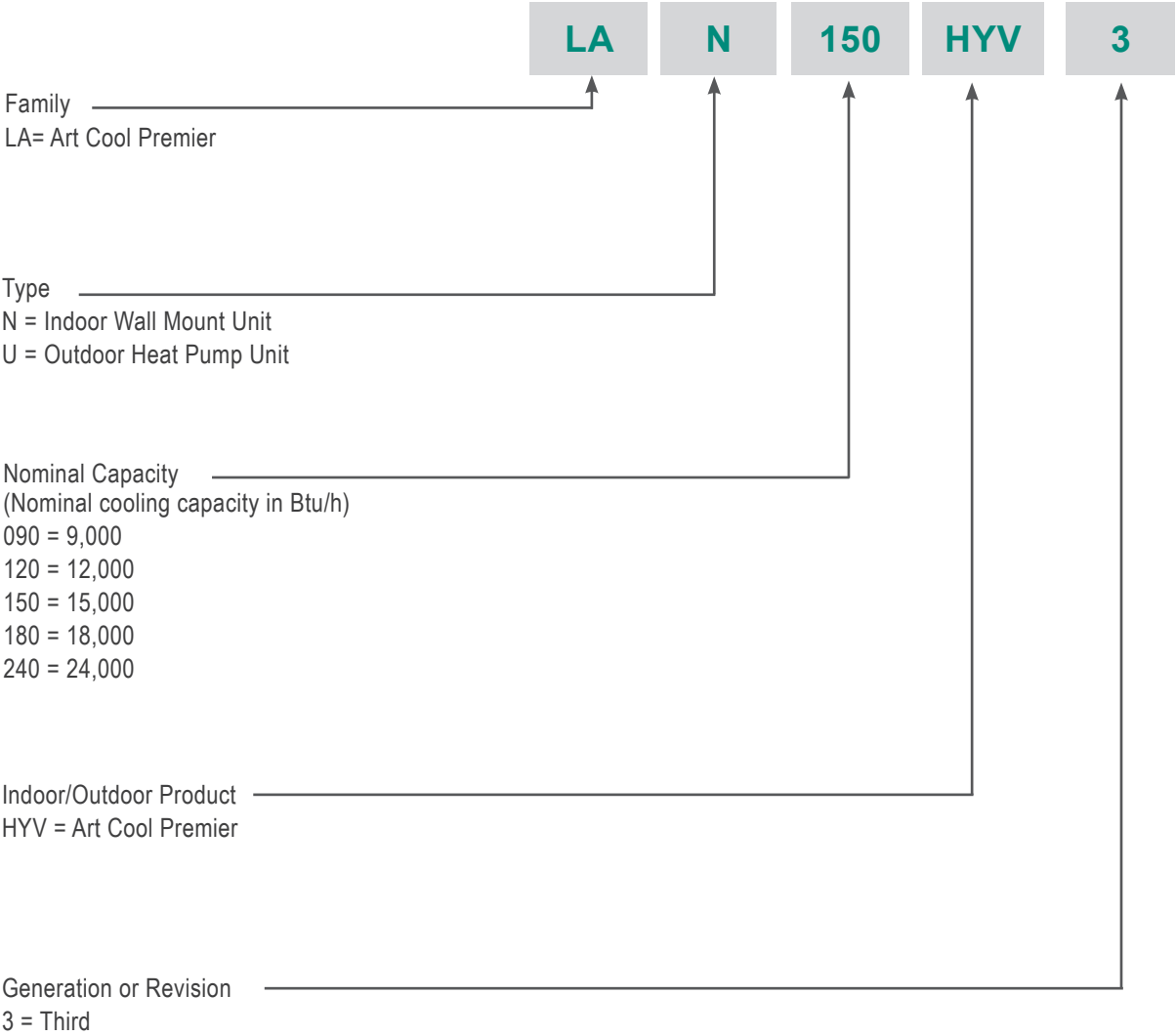
A hydrophilic coating is applied to the outdoor unit coil fin surface over the GoldFin coating. This coating enhances the development of heavier water droplets gathering on the fin surface. As a result, the droplets roll off the fin surfaces, delaying the point when frost forms on the coil surface during heating operation. This coating also makes it possible to easily clean the outdoor unit coil using a mild soap.

Other Features

- Inverter variable speed compressor
- Jet Cool / Jet Heat
- Dehumidifying mode
- Factory installed drain pan heater
- Auto Wind
- Auto restart
- Auto operation
- Self-cleaning indoor coil
- Condensate sensor connection
- Built-in Wi-Fi for Smart ThinQ app
- Precision load matching
- Meets AHRI 210/240

UNIT NOMENCLATURE

Single Zone Wall Mount Indoor and Outdoor Units



Product Data

GENERAL DATA

Art Cool Premier Pairing Table

The following table shows the available outdoor and indoor units, along with the factory provided controller.

Table 1: Single Zone Wall Mounted Art Cool Premier Pairing Table


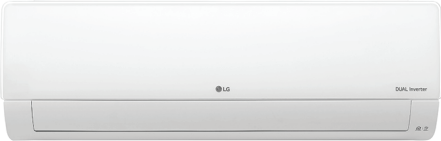




Outdoor Unit Model	Indoor Unit Model	Controller
<div> <div>LAU090HYV3</div> <div>LAU120HYV3</div> <div>  </div> </div>	<div> <div>LAN090HYV3</div> <div>LAN120HYV3</div> <div>  </div> </div>	<div> <div>AKB74955602</div> <div>  </div> </div>
<div> <div>LAU150HYV3</div> <div>LAU180HYV3</div> <div>LAU240HYV3</div> <div>  </div> </div>	<div> <div>LAN150HYV3</div> <div>LAN180HYV3</div> <div>LAN240HYV3</div> <div>  </div> </div>	<div> <div>AKB74955602</div> <div>  </div> </div>

Table 2: Single Zone Wall Mounted Art Cool Premier System Specifications.

System (Model) (Indoor Unit / Outdoor Unit)	LA090HYV3 (LAN090HYV3/LAU090HYV3)	LA120HYV3 (LAN120HYV3/LAU120HYV3)
Cooling Capacity (Min/Rated/Max) (Btu/h)	1,023 ~ 9,000 ~ 13,000	1,023 ~ 12,000 ~ 13,785
Cooling Power Input ¹ (Min/Rated/Max) (kW)	0.20 ~ 0.57 ~ 0.74	0.20 ~ 0.87 ~ 1.14
EER2 (@95°F)	15.8	13.8
SEER2	27.0	25.5
Heating Capacity (Min/Rated/Max) (Btu/h)	1,023 ~ 11,000 ~ 20,472	1,023 ~ 13,600 ~ 22,178
Heating Power Input ¹ (Min/Rated/Max) (kW)	0.195 ~ 0.71 ~ 0.93	0.195 ~ 0.97 ~ 1.25
COP (@47°F)	4.54	4.11
HSPF2	13.5	11.2
Rated Low Heating Capacity (Btu/h)		
Outdoor 17°F (WB)/Indoor 70°F (DB)	6,750	8,350
Low COP (@17°F)	3.47	3.14
Maximum Heating Capacity (Btu/h)		
Outdoor 17°F (WB)/Indoor 70°F (DB)	11,940 (108%)	14,760 (109%)
Outdoor 5°F (WB)/Indoor 70°F (DB)	11,000 (100%)	13,600 (100%)
Outdoor -4 °F (WB)/Indoor 70°F (DB)	9,700 (88%)	11,720 (86%)
Outdoor -13°F (WB)/Indoor 70°F (DB)	8,030 (73%)	9,640 (70%)
ENERGY STAR / Cold Climate	Yes / Yes	Yes / Yes
Power Supply (V/Hz/Ø)	208-230/60/1	
Power/Communication Cable ² (No. x AWG)	4 x 14	
Outdoor Unit Operating Range ³		
Cooling (°F DB)	14 to 118	
Heating (°F WB)	-13 to +65	
Indoor Unit Operating Range		
Cooling (°F WB)	53 to 75	
Heating (°F DB)	60 to 86	
Indoor Temperature Setting Range		
Cooling (°F)	64 to 86	
Heating (°F)	60 to 86	
Unit Data		
Refrigerant Type ⁴ / Refrigerant Control	R410A / EEV	
IDU Sound Pressure ⁵ dB(A) (H/M/L/Sleep)	42 / 36 / 26 / 22	42 / 36 / 26 / 22
ODU Sound Pressure ⁵ dB(A) (Cool/Heat)	48 / 50	48 / 50
ODU Max. External Static Pressure (in.wg)	0.0387	0.0387
IDU Dimensions (W x H x D) (in.)	39-9/32 x 13-19/32 x 8-9/32	39-9/32 x 13-19/32 x 8-9/32
ODU Dimensions (W x H x D) (in.)	34-1/4 x 25-19/32 x 13	34-1/4 x 25-19/32 x 13
IDU Net / Shipping Weight (lbs.)	25.1 / 29.5	25.1 / 29.5
ODU Net / Shipping Weight (lbs.)	93.9 / 103.2	93.9 / 103.2
Compressor (Type x Qty.)	Twin Rotary x 1	Twin Rotary x 1

EEV: Electronic Expansion Valve IDU: Indoor Unit ODU: Outdoor Unit

¹Power Input is rated at high speed.

²All power wiring/communication cables are field supplied and are to be minimum 14 AWG, 4-conductor, stranded, shielded or unshielded (if shielded, must be grounded to chassis at outdoor unit only) and must comply with applicable local and national codes.

³Optional Low Ambient Wind Baffle Kit allows operation down to 0°F in cooling mode.

⁴Take appropriate actions at the end of HVAC equipment life to recover, recycle, reclaim or destroy R410A refrigerant according to applicable regulations (40 CFR Part 82, Subpart F) under section 608 of CAA.

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

⁶Piping lengths are equivalent.

This unit comes with a dry helium charge.

This data is rated 0 ft above sea level with 24.6 of refrigerant line per indoor unit and a 0 ft level difference outdoor and indoor units.

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 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).

GENERAL DATA

Table 3: Single Zone Wall Mounted Art Cool Premier System Specifications, continued.

System (Model) (Indoor Unit / Outdoor Unit)		LA090HYV3 (LAN090HYV3/LAU090HYV3)	LA120HYV3 (LAN120HYV3/LAU120HYV3)
Dehumidification Rate (pts./hr.)		3.17	3.59
Heat Exchanger			
Material and Fin Coating		Copper Tube / Aluminum Fin (Gold Fin™ Coating on Outdoor Unit Coil; N/A on Indoor Unit Coil)	
Rows / Columns / Fin per inch x Qty.		Outdoor Unit: 2 x 28 x 18; Indoor Unit: 2 x 16 x 20	
Fan			
Indoor Unit Type x Qty.		Cross Flow x 1	
Outdoor Unit Type x Qty.		Propeller x 1	
Outdoor Unit Motor Output (W) x Qty.		85 x 1	85 x 1
Outdoor Unit Motor / Drive		Brushless Digitally Controlled/Direct	
Airflow Rate			
IDU Max/H/M/L (CFM)		530 / 424 / 353 / 184	530 / 424 / 353 / 184
ODU Max (CFM)		1,730	1,730
Piping			
Liquid (in.)	Connection / Pipe Size	1/4 / 1/4	1/4 / 1/4
Vapor (in.)	Connection / Pipe Size	3/8 / 3/8	3/8 / 3/8
Condensation Line (OD, ID, in.)		25/32, 19/32	25/32, 19/32
Refrigerant Pre-Charge (oz.)		40.6	40.6
Additional Refrigerant Charge (oz/ft)		0.22	0.22
Pipe Length ⁶ (Minimum/Maximum) (ft)		9.8/65.6	9.8/65.6
Piping Length ⁶ (no add'l refrigerant, ft)		24.6	24.6
Max Elevation Difference (ft)		39.4	39.4

EEV: Electronic Expansion Valve IDU: Indoor Unit ODU: Outdoor Unit

¹Power Input is rated at high speed.

²All power wiring/communication cables are field supplied and are to be minimum 14 AWG, 4-conductor, stranded, shielded or unshielded (if shielded, must be grounded to chassis at outdoor unit only) and must comply with applicable local and national codes.

³Optional Low Ambient Wind Baffle Kit allows operation down to 0°F in cooling mode.

⁴Take appropriate actions at the end of HVAC equipment life to recover, recycle, reclaim or destroy R410A refrigerant according to applicable regulations (40 CFR Part 82, Subpart F) under section 608 of CAA.

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

⁶Piping lengths are equivalent.

This unit comes with a dry helium charge.

This data is rated 0 ft above sea level with 24.6 of refrigerant line per indoor unit and a 0 ft level difference outdoor and indoor units.

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

Table 4: Single Zone Wall Mounted Art Cool Premier System Specifications, continued.

System (Model) (Indoor Unit / Outdoor Unit)	LA150HYV3 (LAN150HYV3/LAU150HYV3)	LA180HYV3 (LAN180HYV3/LAU180HYV3)	LA240HYV3 (LAN240HYV3/LAU240HYV3)
Cooling Capacity (Min/Rated/Max) (Btu/h)	3,070 ~ 15,000 ~ 21,000	3,070 ~ 18,000 ~ 29,515	3,070 ~ 22,000 ~ 30,000
Cooling Power Input ¹ (Min/Rated/Max) (kW)	0.40 ~ 1.0 ~ 1.73	0.40 ~ 1.25 ~ 2.43	0.40 ~ 1.692 ~ 3.17
EER2 (@95°F)	15.0	14.4	13.0
SEER2	25.0	24.0	23.0
Heating Capacity (Min/Rated/Max) (Btu/h)	3,070 ~ 18,000 ~ 25,200	3,070 ~ 21,600 ~ 32,000	3,070 ~ 26,000 ~ 36,200
Heating Power Input ¹ (Min/Rated/Max) (kW)	0.55 ~ 1.125 ~ 1.99	0.66 ~ 1.543 ~ 2.71	0.66 ~ 2.08 ~ 3.24
COP (@47°F)	4.69	4.10	3.66
HSPF2	11.0	10.8	10.0
Rated Low Heating Capacity (Btu/h)			
Outdoor 17°F (WB)/Indoor 70°F (DB)	11,050	13,250	17,500
Low COP (@17°F)	3.56	3.13	2.95
Maximum Heating Capacity (Btu/h)			
Outdoor 17°F (WB)/Indoor 70°F (DB)	21,430 (119%)	24,920 (115%)	27,360 (105%)
Outdoor 5°F (WB)/Indoor 70°F (DB)	18,950 (105%)	21,600 (100%)	23,700 (91%)
Outdoor -4 °F (WB)/Indoor 70°F (DB)	16,880 (94%)	18,710 (87%)	21,170 (81%)
Outdoor -13 °F (WB)/Indoor 70°F (DB)	14,660 (81%)	15,680 (73%)	17,740(68%)
ENERGY STAR 6.1 / Cold Climate	Yes / Yes	Yes / Yes	Yes / Yes
Power Supply (V/Hz/Ø)	208-230/60/1		
Power/Communication Cable ² (No. x AWG)	4 x 14		
Outdoor Unit Operating Range ³			
Cooling (°F DB)	14 to 118		
Heating (°F WB)	-13 to 65		
Indoor Unit Operating Range			
Cooling (°F WB)	53 to 75		
Heating (°F DB)	60 to 86		
Indoor Temperature Setting Range			
Cooling (°F)	64 to 86		
Heating (°F)	60 to 86		
Unit Data			
Refrigerant Type ⁴ / Refrigerant Control	R410A / EEV		
IDU Sound Pressure ⁵ dB(A) (H/M/L/Sleep)	49 / 44 / 40 / 30	49 / 44 / 40 / 30	49 / 44 / 40 / 30
ODU Sound Pressure ⁵ dB(A) (Cooling/Heat)	51 / 56	53 / 56	55 / 56
ODU Max. External Static Pressure (in.wg)	0.0409	0.0409	0.0409
IDU Dimensions (W x H x D) (in.)	41-23/32 x 14-23/32 x 10-7/16	41-23/32 x 14-23/32 x 10-7/16	41-23/32 x 14-23/32 x 10-7/16
ODU Dimensions (W x H x D) (in.)	37-13/32 x 32-3/4 x 13	37-13/32 x 32-3/4 x 13	37-13/32 x 32-3/4 x 13
IDU Net / Shipping Weight (lbs.)	37.7 / 45.6	37.7 / 45.6	37.7 / 45.6
ODU Net / Shipping Weight (lbs.)	135.4 / 147.7	135.4 / 147.7	135.4 / 147.7
Compressor Type (Qty)	Twin Rotary (1)	Twin Rotary (1)	Twin Rotary (1)

EEV: Electronic Expansion Valve IDU: Indoor Unit ODU: Outdoor Unit

¹Power Input is rated at high speed.

²All power wiring/communication cables are field supplied and are to be minimum 14 AWG, 4-conductor, stranded, shielded or unshielded (if shielded, must be grounded to chassis at outdoor unit only) and must comply with applicable local and national codes.

³Optional Low Ambient Wind Baffle Kit allows operation down to 0°F in cooling mode.

⁴Take appropriate actions at the end of HVAC equipment life to recover, recycle, reclaim or destroy R410A refrigerant according to applicable regulations (40 CFR Part 82, Subpart F) under section 608 of CAA.

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

⁶Piping lengths are equivalent.

This unit comes with a dry helium charge.

This data is rated 0 ft above sea level with 24.6 of refrigerant line per indoor unit and a 0 ft level difference outdoor and indoor units.

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 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).

GENERAL DATA

Table 5: Single Zone Wall Mounted Art Cool Premier System Electrical Data Table.

System (Model) (Indoor Unit / Outdoor Unit)		LA150HYV3 (LAN150HYV3/LAU150HYV3)	LA180HYV3 (LAN180HYV3/LAU180HYV3)	LA240HYV3 (LAN240HYV3/LAU240HYV3)
Dehumidification Rate (pts./hr.)		3.8	4.65	4.65
Heat Exchanger				
Material and Fin Coating		Copper Tube / Aluminum Fin (Gold Fin™ Coating on Outdoor Unit Coil; N/A on Indoor Unit Coil)		
Rows / Columns / Fin per inch x Qty.		Outdoor Unit: 2 x 38 x 17; Indoor Unit: 3 x 18 x 21		
Fan				
Indoor Unit Type x Qty.		Cross Flow x 1		
Outdoor Unit Type x Qty.		Propeller x 1		
Outdoor Unit Motor Output (W) x Qty.		124 x 1	124 x 1	124 x 1
Outdoor Unit Motor / Drive		Brushless Digitally Controlled/Direct		
Airflow Rate				
IDU Max/H/M/L (CFM)		813 / 601 / 495 / 389	813 / 601 / 495 / 389	813 / 601 / 495 / 389
ODU Max (CFM)		2,119	2,119	2,119
Piping				
Liquid (in.)	Connection / Pipe Size	3/8 / 3/8	3/8 / 3/8	3/8 / 3/8
Vapor (in.)	Connection / Pipe Size	5/8 / 5/8	5/8 / 5/8	5/8 / 5/8
Condensation Line (OD, ID)		25/32, 19/32	25/32, 19/32	25/32, 19/32
Refrigerant Pre-Charge (oz.)		77.6	77.6	77.6
Additional Refrigerant Charge (oz/ft)		0.38	0.38	0.38
Pipe Length ⁶ (Minimum/Maximum) (ft)		9.8/164	9.8/164	9.8/164
Piping Length ⁶ (no add'l refrigerant, ft)		24.6	24.6	24.6
Max Elevation Difference (ft)		98.4	98.4	98.4

EEV: Electronic Expansion Valve IDU: Indoor Unit ODU: Outdoor Unit

¹Power Input is rated at high speed.

²All power wiring/communication cables are field supplied and are to be minimum 14 AWG, 4-conductor, stranded, shielded or unshielded (if shielded, must be grounded to chassis at outdoor unit only) and must comply with applicable local and national codes.

³Optional Low Ambient Wind Baffle Kit allows operation down to 0°F in cooling mode.

⁴Take appropriate actions at the end of HVAC equipment life to recover, recycle, reclaim or destroy R410A refrigerant according to applicable regulations (40 CFR Part 82, Subpart F) under section 608 of CAA.

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

⁶Piping lengths are equivalent.

This unit comes with a dry helium charge.

This data is rated 0 ft above sea level with 24.6 of refrigerant line per indoor unit and a 0 ft level difference outdoor and indoor units.

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 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).

ELECTRICAL DATA

Table 6: Single Zone Wall Mounted Art Cool Premier System Electrical Data Table.

Model Number	Nominal Tons	Compressor Qty.	Compressor (A) Cool/Heat	Fan Qty.	ODU Fan (A)	IDU Fan (A)	MCA(A)	MOP(A)
LA090HYV3	3/4	1	8.3/8.3	1	0.4	0.4	11.2	15
LA120HYV3	1	1	8.3/8.3	1	0.4	0.4	11.2	15
LA150HYV3	1-1/4	1	14.41/14.41	1	0.4	0.5	19.0	30
LA180HYV3	1-1/2	1	14.41/14.41	1	0.4	0.5	19.0	30
LA240HYV3	2	1	14.41/14.41	1	0.4	0.5	19.0	30

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.

FUNCTIONS, CONTROLS, OPTIONS

Table 7: Indoor Units—Functions, Controls and Options.

Indoor Unit Type		Art Cool Premier				
		LA090HYV3	LA120HYV3	LA150HYV3	LA180HYV3	LA240HYV3
Airflow	Air supply outlet	1	1	1	1	1
	Airflow direction (left/right)	5 Steps	5 Steps	5 Steps	5 Steps	5 Steps
	Airflow direction (up/down)	6 Steps	6 Steps	6 Steps	6 Steps	6 Steps
	Auto swing (left/right)	√	√	√	√	√
	Auto swing (up/down)	√	√	√	√	√
	Airflow steps (fan/cool/heat)	6 / 6 / 6	6 / 6 / 6	6 / 6 / 6	6 / 6 / 6	6 / 6 / 6
	Auto wind	√	√	√	√	√
	Jet-cool/heat	√ / √	√ / √	√ / √	√ / √	√ / √
	One touch soft air	√	√	√	√	√
Air Purifying	Washable ¹	√	√	√	√	√
Functions	Drain pump	X	X	X	X	X
	E.S.P. control	X	X	X	X	X
	Electric heater	X	X	X	X	X
	High ceiling	X	X	X	X	X
	Defrost	√	√	√	√	√
	Low ambient	√	√	√	√	√
	Hot start	√	√	√	√	√
	Self diagnostics	√	√	√	√	√
	Outdoor Unit Drain Pan Heater	√	√	√	√	√
	Soft dry (dehumidification)	√	√	√	√	√
	Auto changeover	√	√	√	√	√
	Auto clean (coil dry)	√	√	√	√	√
	Auto restart	√	√	√	√	√
	Child lock (applicable with wired controller)	o	o	o	o	o
	Forced operation	√	√	√	√	√
	Sleep mode	√	√	√	√	√
	Timer (24hr on/off)	√	√	√	√	√
	Weekly timer (applicable with wired controller)	o	o	o	o	o
	Two thermistor control (applicable with wired controller)	o	o	o	o	o
	Wireless Remote Controller	√	√	√	√	√
Controllers	Simple Controller with Mode Selection	o	o	o	o	o
	Simple Controller without Mode Selection	o	o	o	o	o
	LG Programmable Thermostat	o	o	o	o	o
	Dry contact	o	o	o	o	o
	Central control (LGAP)	X	X	X	X	X
	PI 485	o	o	o	o	o
Special Function Kit	Zone control	X	X	X	X	X
	CTIE	X	X	X	X	X
	Electro thermostat	X	X	X	X	X
	Wi-Fi Module	√	√	√	√	√
	Water level sensor connection (for optional AG-9300-LG)	o	o	o	o	o
	Wind baffle kit	ZLABGP03A	ZLABGP03A	ZLABGP04A	ZLABGP04A	ZLABGP04A

¹Primary washable filters.

√ = Standard feature

o = Optional accessory (must be purchased separately)

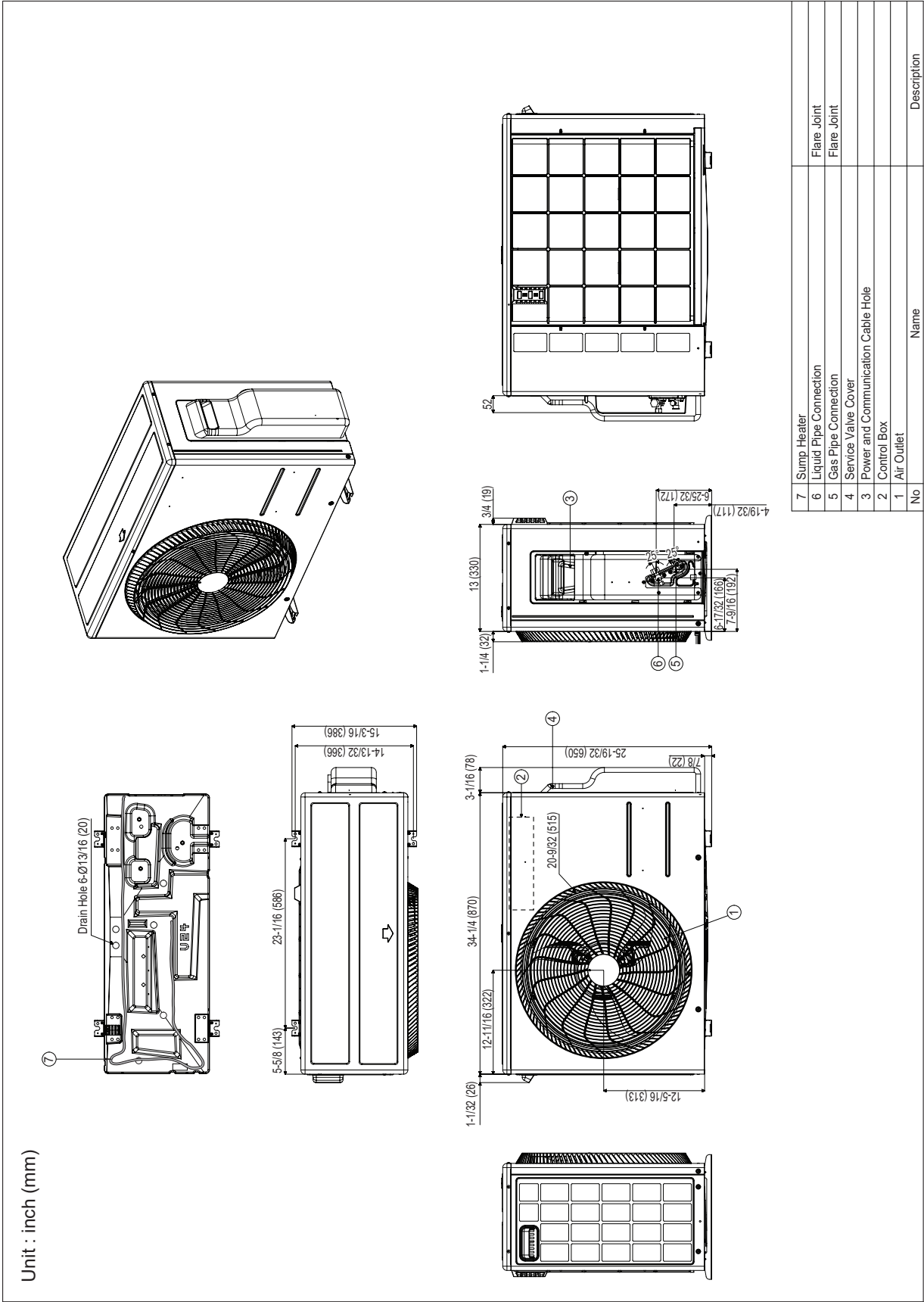
X = Not available

• When Dry Contact Mode active, Wi-Fi Function can not be used.

• When changing from Wi-Fi mode to dry contact mode, normal operation resumes in approximately 3 minutes.

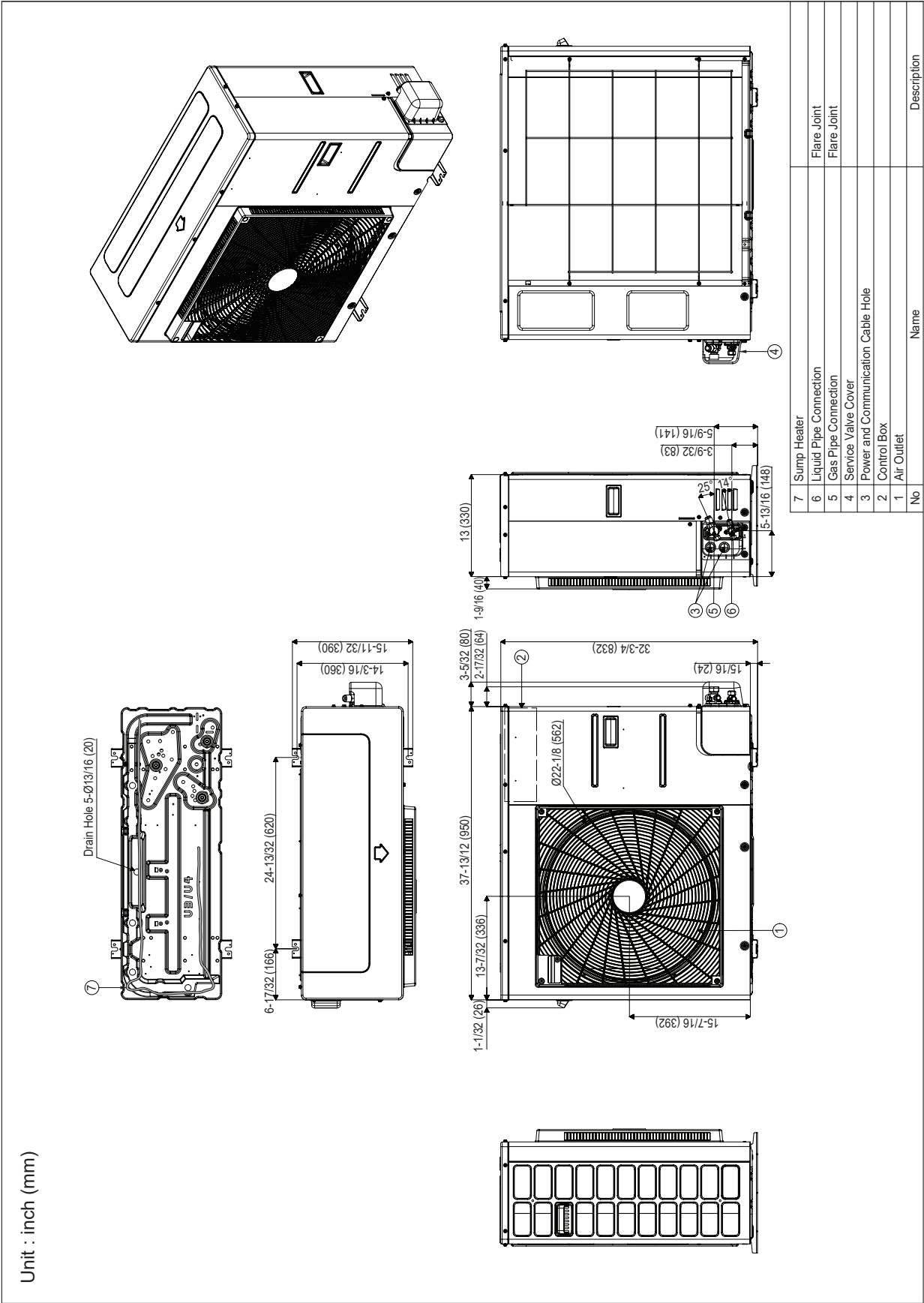
OUTDOOR UNIT DIMENSIONS

LAU090HYV3, LAU120HYV3



OUTDOOR UNIT DIMENSIONS

LAU150HYV3, LAU180HYV3, LAU240HYV3



OUTDOOR UNIT CENTER OF GRAVITY / CORNER WEIGHT

Figure 1: Center of Gravity and Corner Weight Dimensions Diagram.

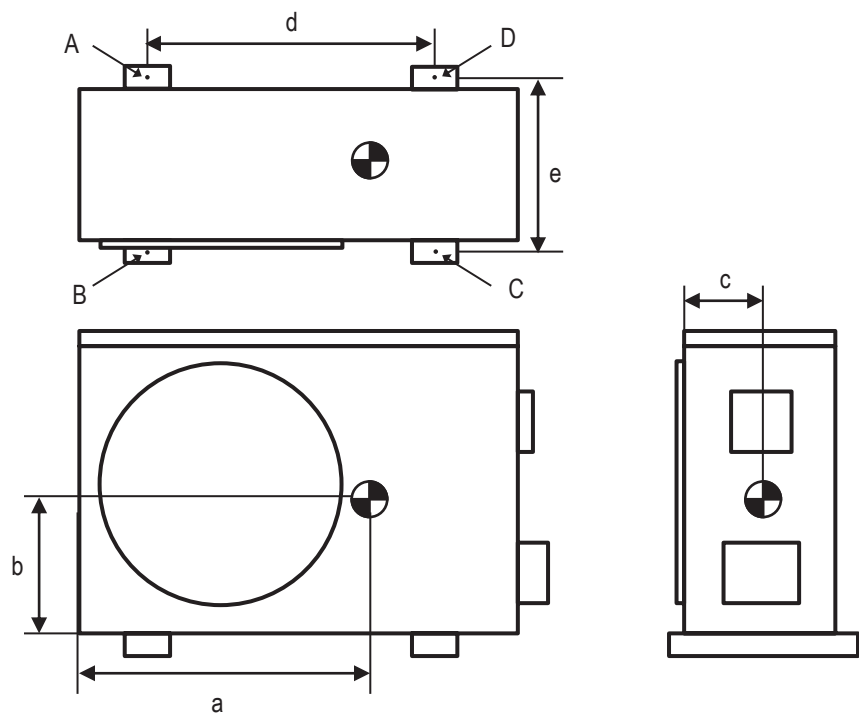
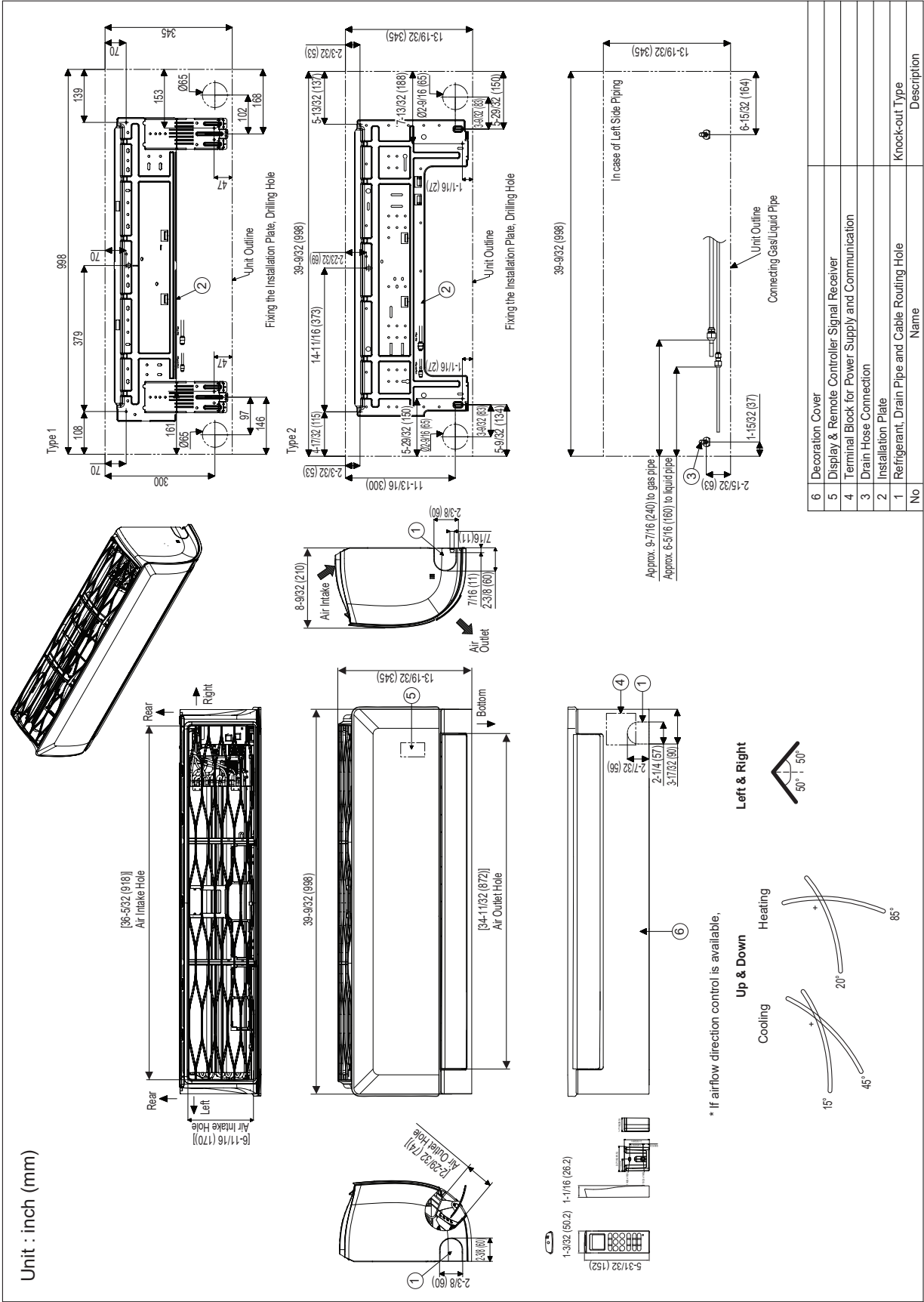


Table 8: Center of Gravity and Corner Weight Dimensions.

Model	Weight (lb.)		Center of Gravity (inch)			Leg (inch)		Corner Weight (lb.)			
	Shipping	Net	a	b	c	d	e	A	B	C	D
LAU090HYV3, LAU120HYV3	103.2	93.9	22-1/4	10-1/4	5-29/32	23-1/16	14-13/32	11.1	15.1	35.9	31.8
LAU150HYV3, LAU180HYV3, LAU240HYV3	147.7	135.4	23-7/32	12-19/32	5-29/32	24-13/32	14-3/16	18.6	24.2	49.1	43.5

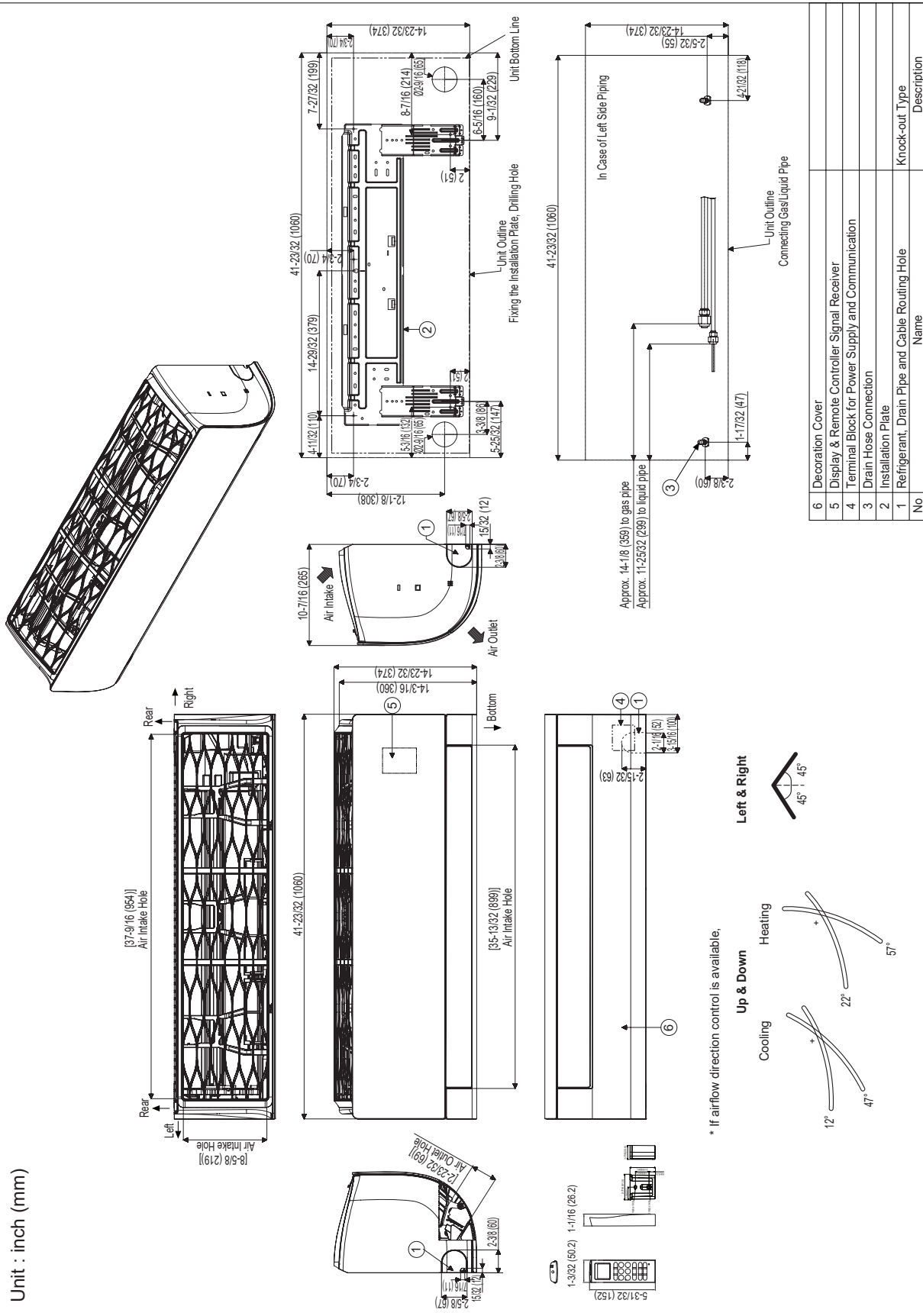
INDOOR UNIT DIMENSIONS

LAN090HYV3, LAN120HYV3



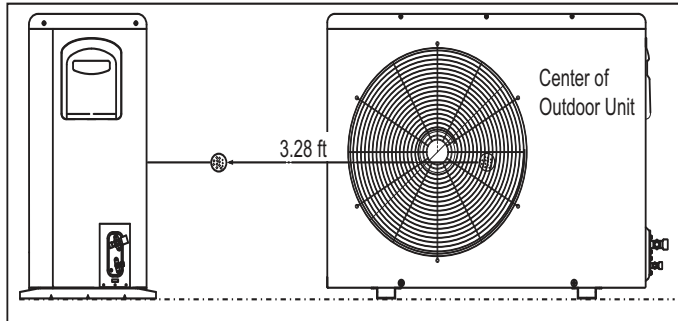
INDOOR UNIT DIMENSIONS

LAN150HYV3, LAN180HYV3, LAN240HYV3



OUTDOOR UNIT ACOUSTIC DATA

Figure 2: Outdoor Unit Sound Levels



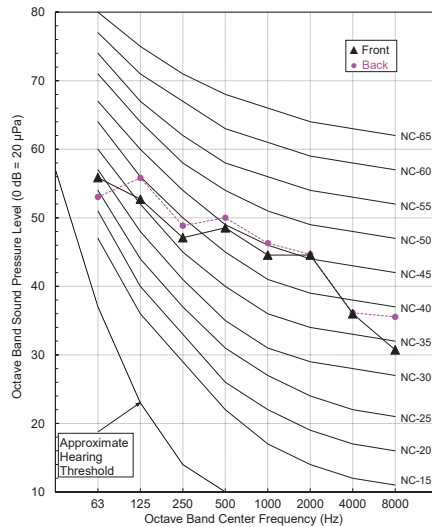
- Measurements are taken 3.28 ft away from the front of the unit.
- Sound pressure levels are measured in dB(A) with a tolerance of ± 3 .
- Sound pressure levels are tested in an anechoic chamber under ISO Standard 3745.
- Sound level will vary depending on a range of factors including the construction (acoustic absorption coefficient) of a particular room in which the unit was installed.

Table 9: Outdoor Unit Acoustic Data

Model	Sound Pressure Levels (dB(A))	
	Cooling (Max)	Heating (Max.)
LAU090HYV3	48	50
LAU120HYV3	48	50
LAU150HYV3	51	56
LAU180HYV3	53	56
LAU240HYV3	55	56

Figure 3: Sound Pressure Levels for LAU090HYV3 Outdoor Unit.

Cooling



Heating

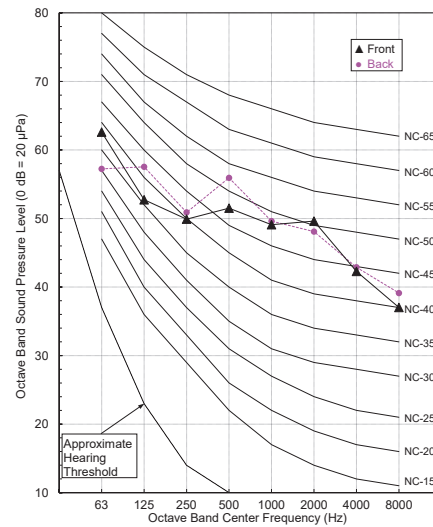
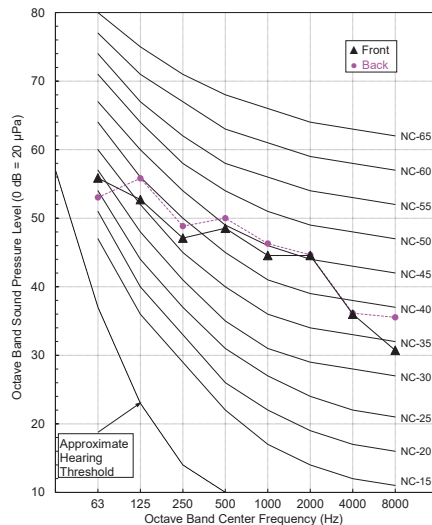
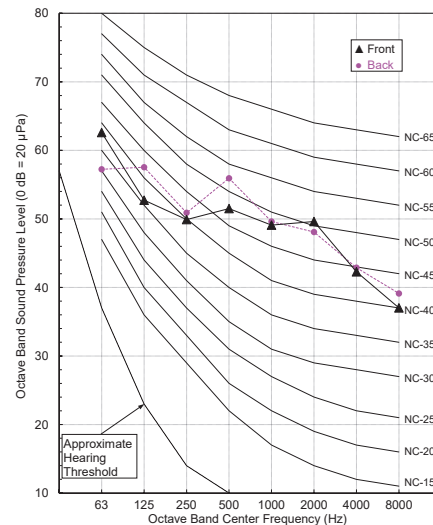


Figure 4: Sound Pressure Levels for LAU120HYV3 Outdoor Unit.

Cooling



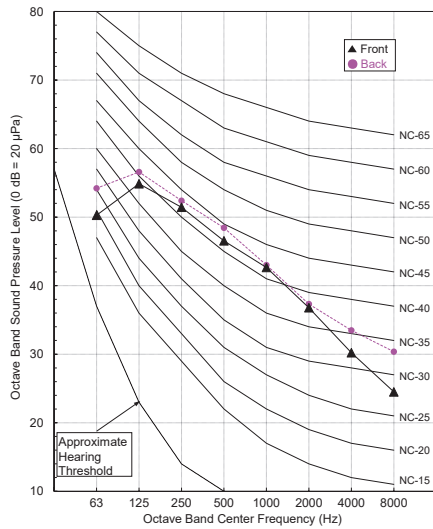
Heating



OUTDOOR UNIT ACOUSTIC DATA

Figure 5: Sound Pressure Levels for LAU150HYV3 Outdoor Unit.

Cooling



Heating

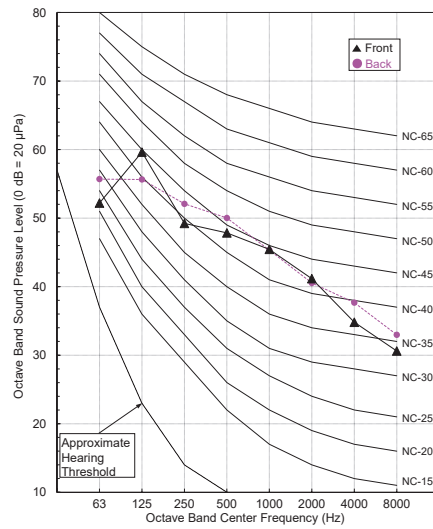
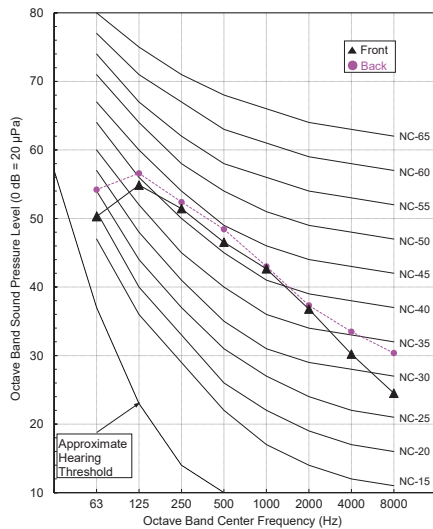


Figure 6: Sound Pressure Levels for LAU180HYV3 Outdoor Unit.

Cooling



Heating

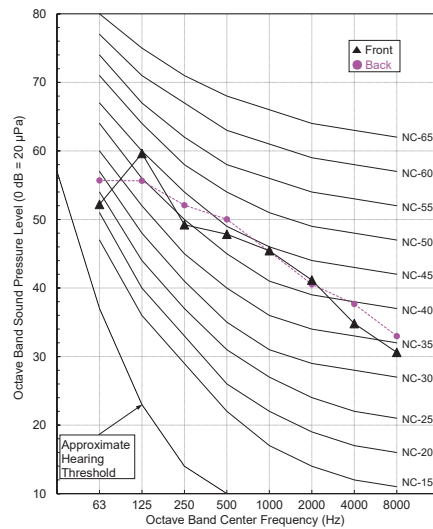
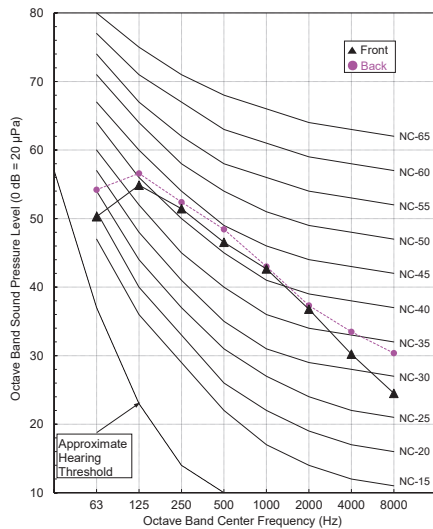
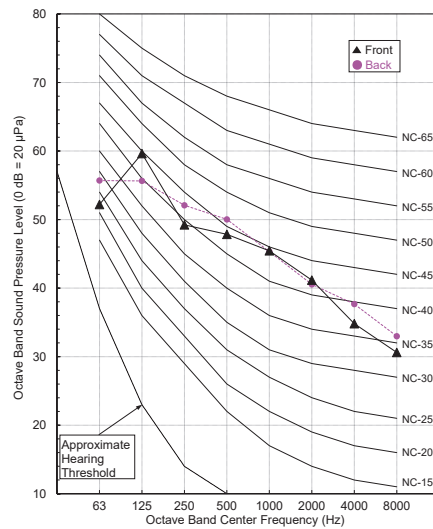


Figure 7: Sound Pressure Levels for LAU240HYV3 Outdoor Unit.

Cooling

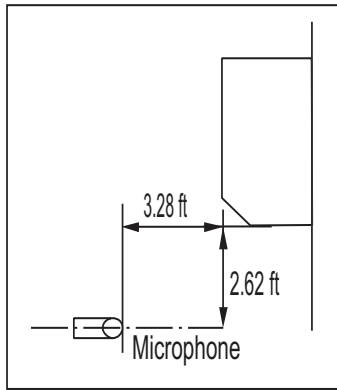


Heating



INDOOR ACOUSTIC DATA

Figure 8: Indoor Unit Sound Levels



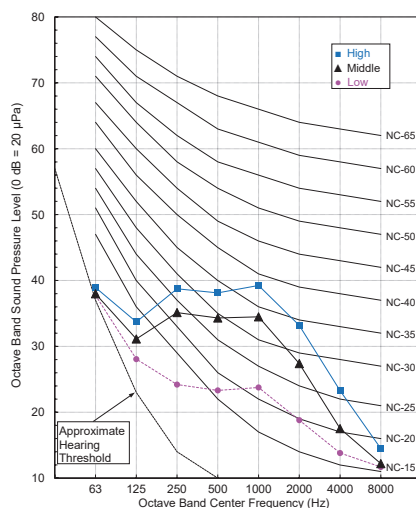
- Measurements are taken 3.28 ft away from the front of the unit.
- Sound pressure levels are measured in dB(A) with a tolerance of ± 3 .
- Sound pressure levels are tested in an anechoic chamber under ISO Standard 3745.
- Sound level will vary depending on a range of factors including the construction (acoustic absorption coefficient) of a particular room in which the unit was installed.

Table 10: Indoor Unit Acoustic Data

Model	Sound Pressure Levels (dB[A])					
	Cooling			Heating		
	H	M	L	H	M	L
LAN090HYV3	42	36	26	42	36	26
LAN120HYV3	42	36	26	42	36	26
LAN150HYV3	49	44	40	49	44	40
LAN180HYV3	49	44	40	49	44	40
LAN240HYV3	49	44	40	49	44	40

Figure 9: Sound Pressure Levels for LAN090HYV3 Indoor Unit.

Cooling



Heating

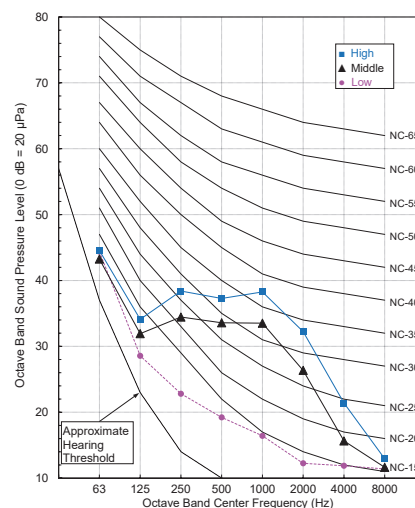
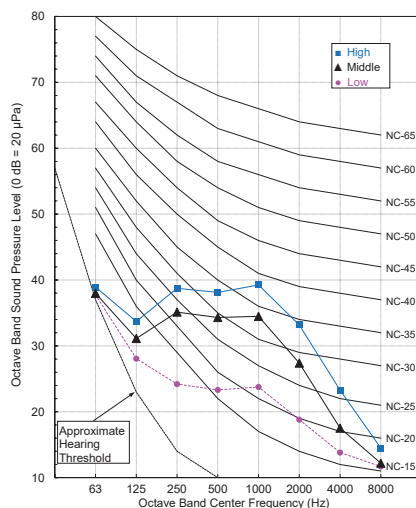


Figure 10: Sound Pressure Levels for LAN120HYV3 Indoor Unit.

Cooling



Heating

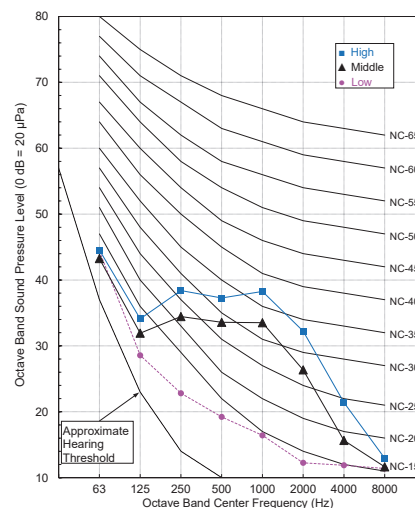
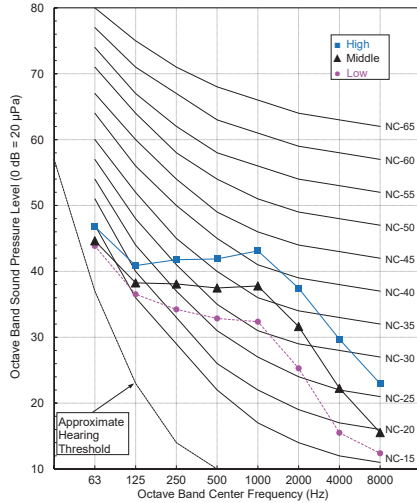


Figure 11: Sound Pressure Levels for LAN150HYV3 Indoor Units.

Cooling



Heating

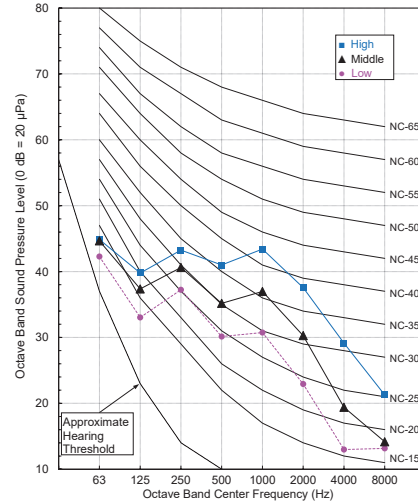
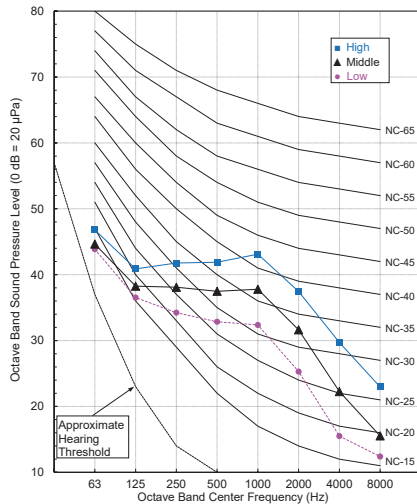


Figure 12: Sound Pressure Levels for LAN180HYV3 Indoor Units.

Cooling



Heating

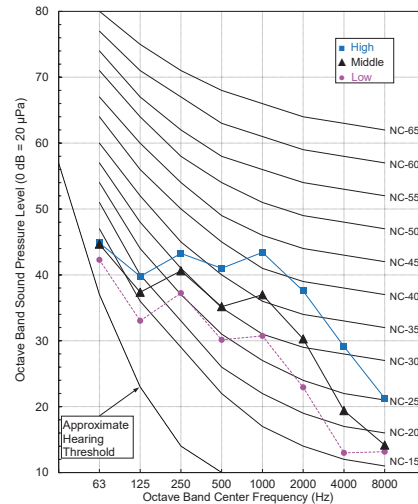
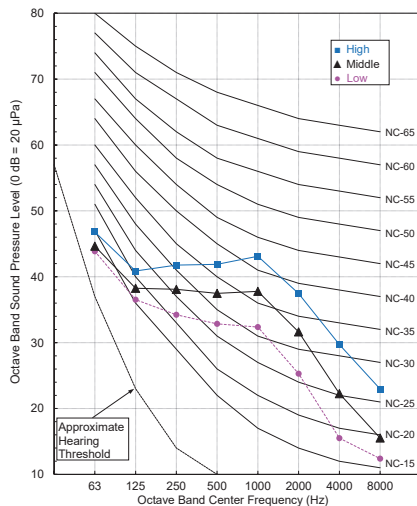
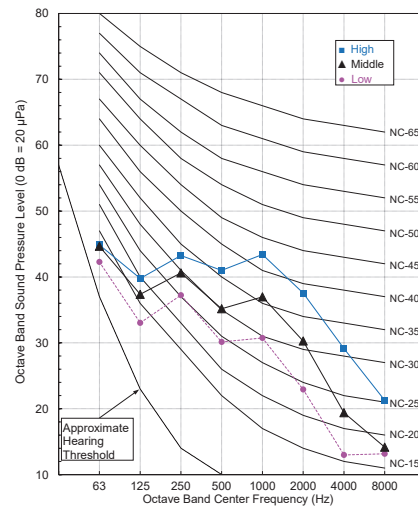


Figure 13: Sound Pressure Levels for LAN240HYV3 Indoor Units.

Cooling

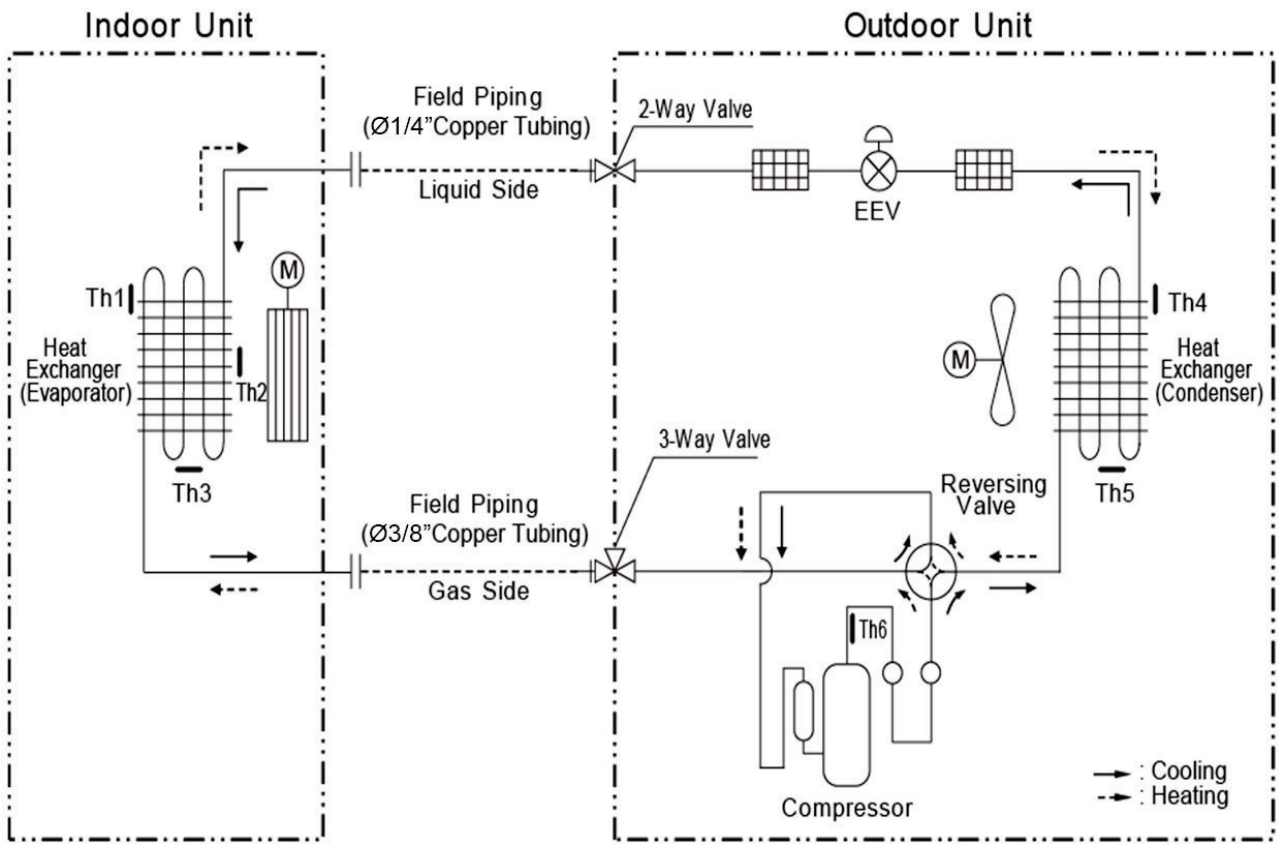


Heating



REFRIGERANT FLOW DIAGRAMS

LAU/LAN090HYV3, LAU/LAN120HYV3

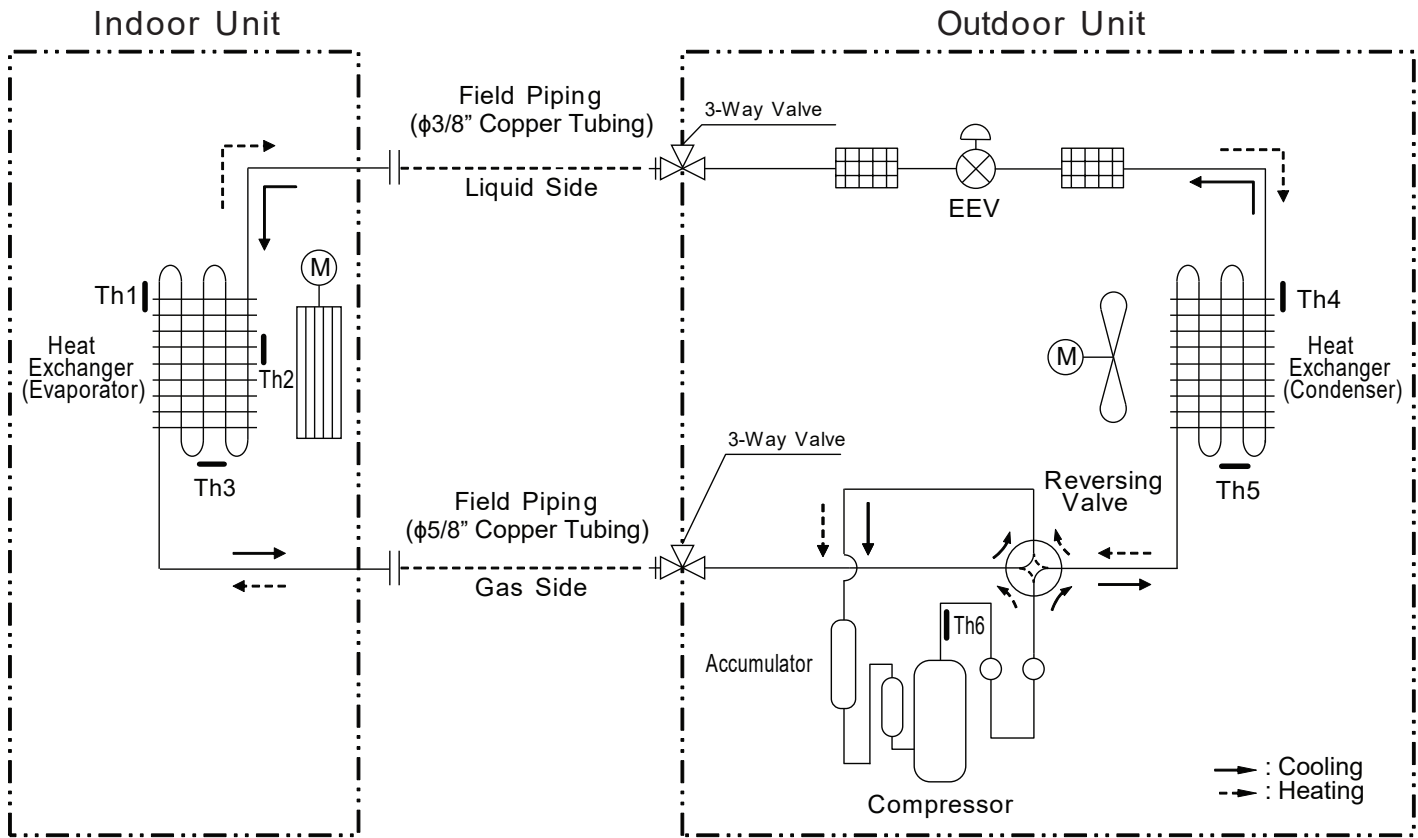


Thermistor	Description	PCB Connector
TH1	Indoor air temperature thermistor	CN-TH1 (Indoor)
TH2	Evaporator middle temperature thermistor	CN-TH3 (Indoor)
TH3	Water level sensor (optional)	CN-TH2 (Indoor)
TH4	Outdoor air temperature thermistor	CN-TH1 (Outdoor)
TH5	Condensing temperature thermistor	
TH6	Discharge pipe temperature thermistor	

Appendix	Heat Exchanger	Propeller Fan	Cross Flow Fan	Compressor	Accumulator	Muffler
	Four-Way Valve	EEV (Electronic Expansion Valve)	Capillary Tube	Two-Way Valve Three-Way Valve	Temperature Sensor	Strainer
	Pressure Sensor	Pressure Switch	Check Valve	Flare Joint		

REFRIGERANT FLOW DIAGRAMS

LAU/LAN150HYV3, LAU/LAN180HYV3, LAU/LAN240HYV3



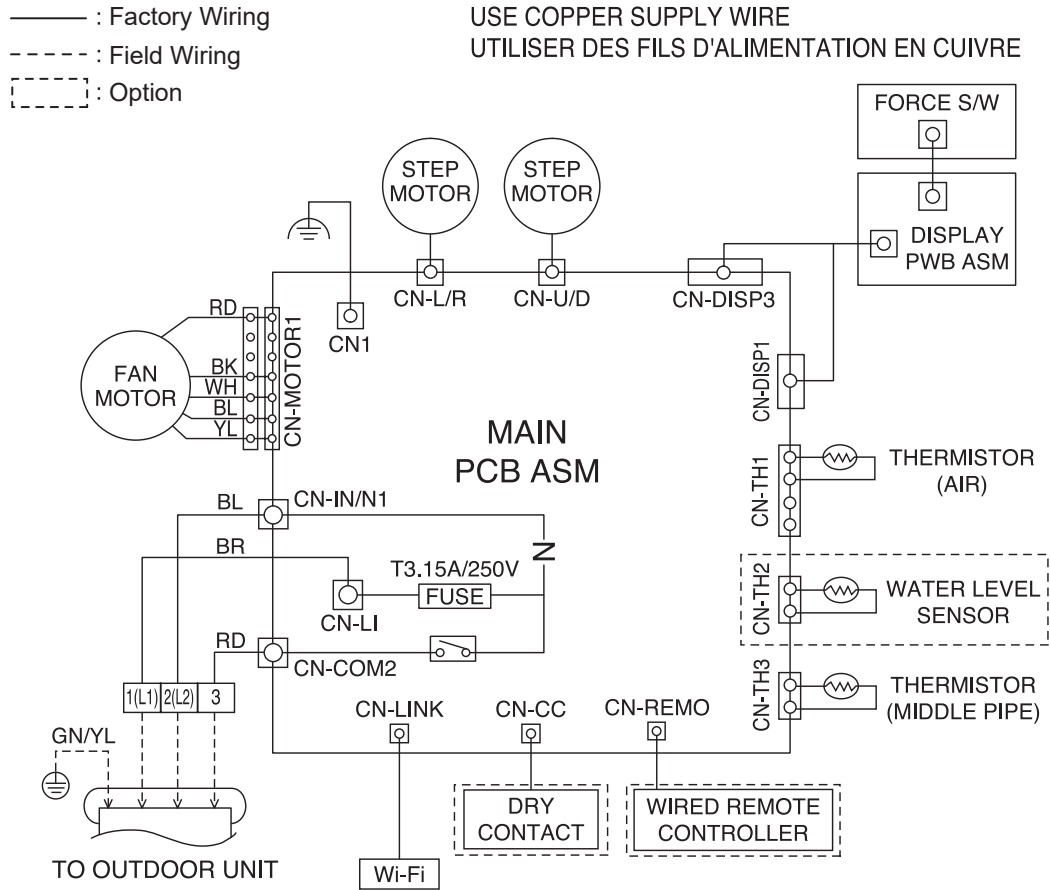
Product Data

Thermistor	Description	PCB Connector
TH1	Indoor air temperature thermistor	CN-TH1 (Indoor)
TH2	Evaporator middle temperature thermistor	CN-TH3 (Indoor)
TH3	Water level sensor (optional)	CN-TH2 (Indoor)
TH4	Outdoor air temperature thermistor	CN-TH1 (Outdoor)
TH5	Condensing temperature thermistor	
TH6	Discharge pipe temperature thermistor	CN-TH2 (Outdoor)

Appendix	Heat Exchanger	Propeller Fan	Cross Flow Fan	Compressor	Accumulator	Muffler
	Four-Way Valve	EEV (Electronic Expansion Valve)	Capillary Tube	Two-Way Valve Three-Way Valve	Temperature Sensor	Strainer
	Pressure Sensor	Pressure Switch	Check Valve	Flare Joint		

WIRING DIAGRAM

LAN090HYV3, LAN120HYV3, LAN150HYV3, LAN180HYV3, LAN240HYV3

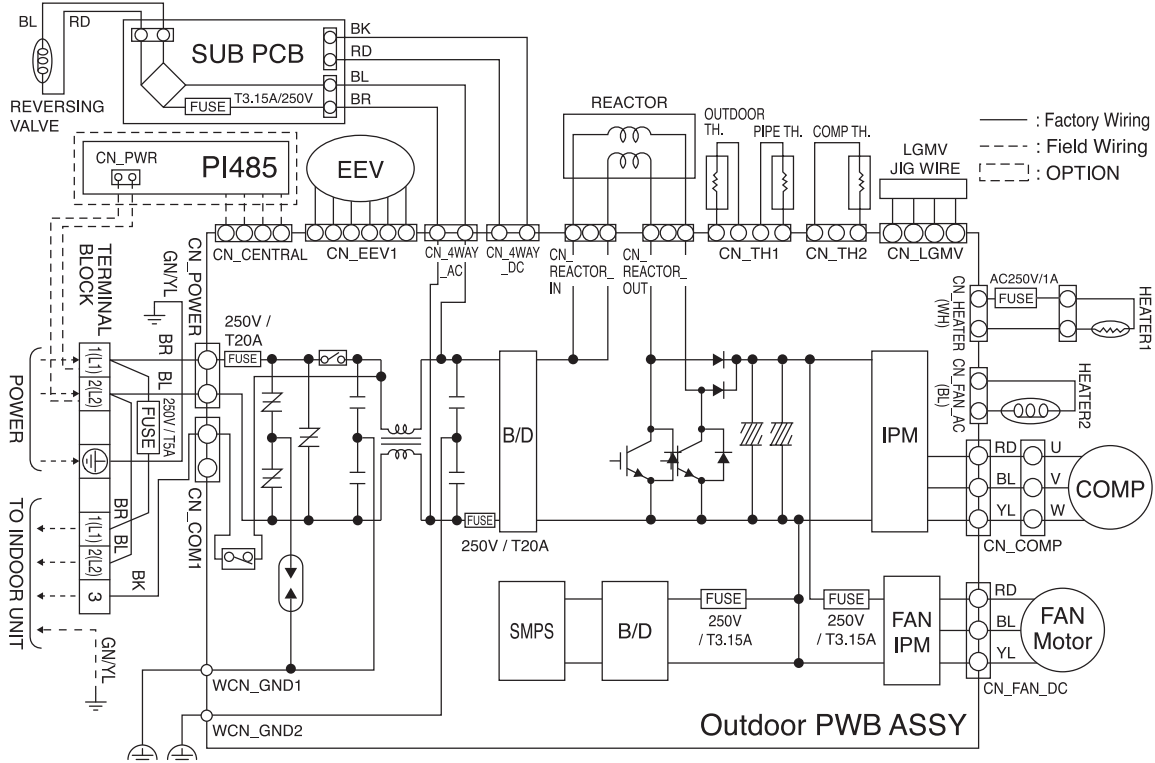


WIRING DIAGRAM

LAU090HYV3, LAU120HYV3

- : Factory Wiring
- - - : Field Wiring
- - - : Option

USE COPPER CONDUCTORS ONLY
UTILISER DES FILS D'ALIMENTATION EN CUIVRE



WIRING DIAGRAM

LAU150HYV3, LAU180HYV3, LAU240HYV3

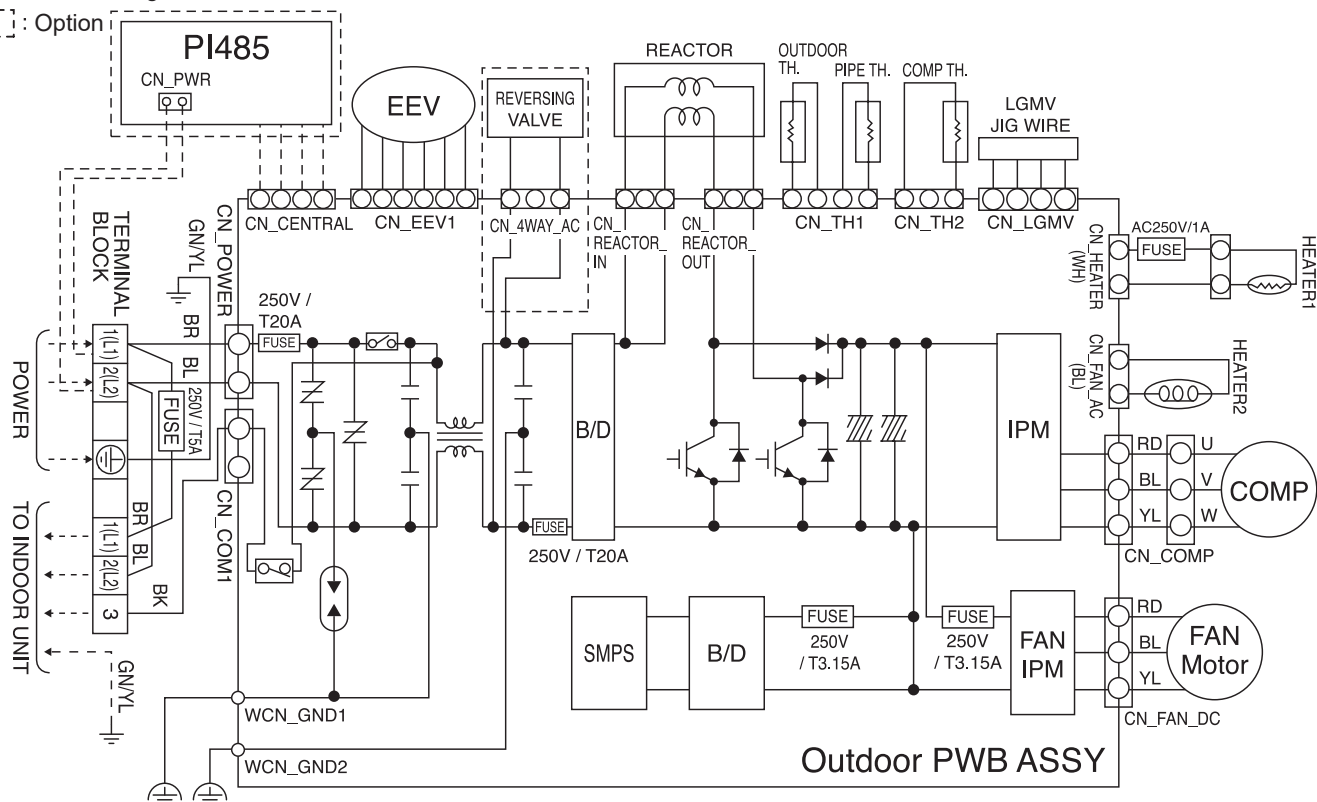
USE COPPER CONDUCTORS ONLY

UTILISER DES FILS D'ALIMENTATION EN CUIVRE

—— : Factory Wiring

- - - : Field Wiring

⋯ : Option



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 shall allow 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
- Inverter compressor current value
- Outdoor air temperature
- Actual high pressure/saturation temperature
- Actual low pressure/saturation temperature
- Suction temperature
- Inverter compressor discharge temperature
- Outdoor coil pipe temperature
- Liquid line 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
- Total number of connected indoor units (for multi zone systems)
- Communication indicator lights
- Unit error code
- Indoor unit capacity
- Indoor unit operating mode
- Indoor unit fan speed
- Indoor unit room temperature
- Indoor unit inlet pipe temperature
- Indoor unit outlet pipe temperature



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

1. Cycleview: Graphic of internal components including:
 - Compressors showing actual speeds
 - EEVs
 - IDUs
 - Low and high pressures
 - Temperature and pressure sensors
 - Four-way reversing valve
 - Outdoor fans showing status and speeds
2. Setting: Converts metric values to imperial values.
3. Making Data: Recording of real time data to a separate file created to be stored on the user's computer.
4. Loading Data: Recorded data from a saved ".CSV" file can be loaded to create an LGMV session.
5. 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

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 on page 33

Maximum Cooling Capacity on page 36

Heating Capacity on page 39

Maximum Heating Capacity on page 42

Air Flow and Temperature Distributions Graphs on page 45

PERFORMANCE DATA

Cooling Capacity

LA090HYV3, LA120HYV3

Table 11: LAN090HYV3/LAU090HYV3 Cooling Capacities.

Outdoor Air Temp. (°F DB)	Indoor Air Temperature (°F DB/ °F WB)																				
	64 / 53			68 / 57			72 / 61			77 / 64			80 / 67			86 / 72			90 / 75		
	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
0	5.45	4.61	0.22	6.81	4.91	0.26	8.18	5.21	0.30	9.88	5.58	0.35	10.91	5.81	0.38	9.10	6.33	0.31	7.90	6.69	0.27
5	5.34	4.55	0.23	6.68	4.84	0.27	8.02	5.14	0.32	9.69	5.51	0.37	10.70	5.73	0.40	8.93	6.24	0.33	7.75	6.59	0.28
7	5.38	4.59	0.23	6.73	4.89	0.28	8.08	5.18	0.32	9.76	5.56	0.37	10.77	5.78	0.41	8.99	6.30	0.33	7.80	6.65	0.28
10	5.44	4.65	0.24	6.80	4.95	0.28	8.16	5.26	0.33	9.86	5.63	0.38	10.88	5.86	0.41	9.08	6.39	0.34	7.88	6.74	0.29
14	5.51	4.74	0.24	6.89	5.04	0.29	8.27	5.35	0.33	9.99	5.73	0.39	11.03	5.96	0.42	9.20	6.50	0.34	7.99	6.86	0.29
23	5.92	5.09	0.24	7.12	5.41	0.29	8.32	5.74	0.34	9.82	6.15	0.40	10.72	6.40	0.44	9.43	6.98	0.35	8.57	7.37	0.29
25	6.01	5.17	0.25	7.18	5.48	0.30	8.36	5.80	0.34	9.83	6.20	0.41	10.71	6.44	0.44	9.54	7.06	0.36	8.75	7.47	0.30
30	6.24	5.36	0.26	7.35	5.66	0.31	8.46	5.95	0.36	9.85	6.32	0.41	10.68	6.55	0.45	9.80	7.25	0.37	9.20	7.71	0.32
35	6.47	5.56	0.28	7.52	5.84	0.32	8.56	6.11	0.37	9.87	6.45	0.42	10.66	6.65	0.45	10.05	7.43	0.39	9.65	7.96	0.34
40	6.70	5.76	0.30	7.69	6.01	0.34	8.67	6.26	0.38	9.90	6.57	0.42	10.63	6.75	0.45	10.31	7.62	0.40	10.10	8.20	0.36
45	6.94	5.96	0.32	7.85	6.19	0.35	8.77	6.41	0.39	9.92	6.69	0.43	10.61	6.86	0.46	10.57	7.81	0.41	10.55	8.44	0.39
50	7.17	6.16	0.34	8.02	6.36	0.37	8.88	6.56	0.40	9.94	6.81	0.44	10.58	6.96	0.46	10.83	8.00	0.43	11.00	8.69	0.41
55	7.40	6.36	0.35	8.19	6.54	0.38	8.98	6.71	0.41	9.96	6.93	0.44	10.56	7.06	0.46	11.09	8.18	0.44	11.45	8.93	0.43
60	7.63	6.56	0.37	8.36	6.71	0.40	9.08	6.86	0.42	9.99	7.05	0.45	10.53	7.17	0.47	11.35	8.37	0.46	11.90	9.17	0.45
65	7.56	6.50	0.39	8.25	6.69	0.41	8.94	6.87	0.44	9.80	7.10	0.46	10.31	7.23	0.48	11.13	8.38	0.48	11.68	9.14	0.47
70	7.49	6.44	0.41	8.14	6.66	0.43	8.79	6.87	0.45	9.61	7.14	0.48	10.09	7.30	0.50	10.91	8.38	0.50	11.46	9.10	0.50
75	7.43	6.38	0.43	8.04	6.63	0.45	8.65	6.88	0.47	9.42	7.19	0.50	9.87	7.37	0.51	10.69	8.39	0.52	11.24	9.06	0.52
80	7.36	6.32	0.45	7.93	6.60	0.47	8.51	6.88	0.49	9.22	7.23	0.51	9.66	7.44	0.53	10.48	8.39	0.54	11.02	9.02	0.54
85	7.29	6.27	0.47	7.82	6.58	0.49	8.36	6.89	0.50	9.03	7.28	0.53	9.44	7.51	0.54	10.26	8.40	0.56	10.80	8.98	0.57
90	7.22	6.21	0.49	7.72	6.55	0.50	8.22	6.89	0.52	8.84	7.32	0.54	9.22	7.58	0.56	10.04	8.40	0.58	10.58	8.95	0.59
95	7.15	6.15	0.51	7.61	6.52	0.52	8.07	6.90	0.54	8.65	7.37	0.56	9.00	7.65	0.57	9.82	8.40	0.60	10.36	8.91	0.61
100	6.96	5.99	0.51	7.43	6.38	0.53	7.91	6.77	0.55	8.50	7.26	0.57	8.86	7.56	0.58	9.65	8.27	0.60	10.17	8.75	0.62
105	6.77	5.82	0.52	7.26	6.23	0.54	7.75	6.65	0.55	8.35	7.16	0.57	8.72	7.47	0.59	9.48	8.14	0.61	9.99	8.58	0.63
110	6.59	5.66	0.53	7.08	6.09	0.54	7.58	6.52	0.56	8.21	7.05	0.58	8.58	7.37	0.60	9.31	8.00	0.62	9.80	8.42	0.64
115	6.35	5.46	0.53	6.83	5.88	0.55	7.32	6.29	0.57	7.92	6.81	0.59	8.28	7.13	0.60	8.99	7.73	0.63	9.47	8.14	0.65
118	6.21	5.34	0.54	6.68	5.75	0.55	7.16	6.16	0.57	7.75	6.67	0.59	8.10	6.98	0.61	8.80	7.57	0.63	9.27	7.97	0.65

Table 12: LAN120HYV3/LAU120HYV3 Cooling Capacities.

Outdoor Air Temp. (°F DB)	Indoor Air Temperature (°F DB/ °F WB)																				
	64 / 53			68 / 57			72 / 61			77 / 64			80 / 67			86 / 72			90 / 75		
	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
0	7.27	5.79	0.34	9.08	6.16	0.40	10.90	6.54	0.46	13.18	7.01	0.54	14.54	7.29	0.59	12.13	7.95	0.48	10.53	8.39	0.41
5	7.13	5.71	0.35	8.91	6.08	0.42	10.70	6.45	0.48	12.93	6.91	0.56	14.26	7.19	0.61	11.90	7.84	0.50	10.33	8.27	0.42
7	7.18	5.76	0.36	8.97	6.13	0.42	10.77	6.51	0.49	13.01	6.97	0.57	14.36	7.25	0.62	11.98	7.91	0.51	10.40	8.35	0.43
10	7.25	5.84	0.36	9.06	6.22	0.43	10.88	6.59	0.50	13.15	7.07	0.58	14.51	7.35	0.63	12.11	8.02	0.51	10.51	8.46	0.44
14	7.35	5.94	0.37	9.19	6.33	0.44	11.03	6.71	0.51	13.33	7.19	0.59	14.71	7.48	0.64	12.27	8.16	0.52	10.65	8.61	0.44
23	7.89	6.38	0.37	9.49	6.79	0.44	11.09	7.21	0.52	13.09	7.72	0.61	14.29	8.03	0.67	12.58	8.76	0.54	11.43	9.25	0.44
25	8.01	6.48	0.38	9.58	6.88	0.45	11.14	7.28	0.53	13.10	7.78	0.62	14.28	8.08	0.67	12.71	8.86	0.54	11.67	9.37	0.46
30	8.32	6.73	0.40	9.80	7.10	0.47	11.28	7.47	0.54	13.13	7.94	0.63	14.24	8.21	0.68	13.06	9.09	0.57	12.27	9.68	0.49
35	8.63	6.98	0.43	10.03	7.32	0.49	11.42	7.66	0.56	13.16	8.09	0.64	14.21	8.34	0.69	13.41	9.33	0.59	12.87	9.98	0.52
40	8.94	7.23	0.46	10.25	7.54	0.52	11.56	7.85	0.57	13.19	8.24	0.65	14.18	8.47	0.69	13.75	9.56	0.61	13.47	10.29	0.56
45	9.25	7.48	0.49	10.47	7.76	0.54	11.70	8.04	0.59	13.22	8.39	0.66	14.14	8.60	0.70	14.10	9.80	0.63	14.07	10.60	0.59
50	9.56	7.73	0.51	10.70	7.98	0.56	11.83	8.23	0.61	13.25	8.54	0.67	14.11	8.73	0.70	14.44	10.03	0.65	14.67	10.90	0.62
55	9.87	7.98	0.54	10.92	8.20	0.58	11.97	8.42	0.62	13.29	8.70	0.68	14.07	8.86	0.71	14.79	10.27	0.68	15.27	11.21	0.65
60	10.18	8.23	0.57	11.14	8.42	0.60	12.11	8.61	0.64	13.32	8.85	0.68	14.04	8.99	0.71	15.14	10.50	0.70	15.87	11.51	0.69
65	10.09	8.16	0.60	11.00	8.39	0.63	11.92	8.62	0.67	13.06	8.91	0.71	13.75	9.08	0.73	14.84	10.51	0.73	15.57	11.47	0.72
70	9.99	8.09	0.63	10.86	8.36	0.66	11.72	8.63	0.69	12.81	8.96	0.73	13.46	9.17	0.76	14.55	10.52	0.76	15.28	11.42	0.76
75	9.90	8.01	0.66	10.72	8.32	0.69	11.53	8.63	0.72	12.55	9.02	0.76	13.17	9.25	0.78	14.26	10.52	0.79	14.99	11.37	0.79
80	9.81	7.94	0.68	10.57	8.29	0.71	11.34	8.64	0.74	12.30	9.08	0.78	12.87	9.34	0.80	13.97	10.53	0.82	14.70	11.32	0.83
85	9.71	7.86	0.71	10.43	8.25	0.74	11.15	8.64	0.77	12.05	9.13	0.80	12.58	9.43	0.82	13.67	10.54	0.85	14.40	11.27	0.86
90	9.62	7.79	0.74	10.29	8.22	0.77	10.96	8.65	0.79	11.79	9.19	0.83	12.29	9.51	0.85	13.38	10.54	0.88	14.11	11.23	0.90
95	9.53	7.71	0.77	10.15	8.19	0.80	10.76	8.66	0.82	11.54	9.25	0.85	12.00	9.60	0.87	13.09	10.55	0.91	13.82	11.18	0.93
100	9.28	7.51	0.78	9.91	8.00	0.81	10.55	8.50	0.83	11.34	9.11	0.86	11.81	9.48	0.88	12.86	10.38	0.92	13.57	10.98	0.95
105	9.03	7.31	0.79	9.68	7.82	0.82	10.33	8.34	0.85	11.14	8.98	0.88	11.63	9.37	0.90	12.64	10.21	0.93	13.31	10.77	0.96
110	8.78	7.11	0.81	9.45	7.64	0.83	10.11	8.18	0.86	10.94	8.85	0.89	11.44	9.25	0.91	12.41	10.04	0.95	13.06	10.57	0.97
115	8.47	6.85	0.82	9.11	7.37	0.84	9.75	7.90	0.87	10.56	8.55	0.90	11.04	8.94	0.92	11.99	9.71	0.96	12.62	10.21	0.99
118	8.28	6.70	0.82	8.91	7.21	0.85	9.54	7.73	0.87	10.33	8.37	0.90	10.80	8.76	0.92	11.74	9.50	0.97	12.36	10.00	0.99

DB: Dry Bulb Temperature (°F) WB: Wet Bulb Temperature (°F) TC: Total Capacity (kBtu/h)
 SHC: Sensible Capacity (kBtu/h) PI: Power Input (kW) (includes compressor, indoor fan motor and outdoor fan motor)
 1. All capacities are net, evaporator fan motor heat

PERFORMANCE DATA

Cooling Capacity

LA150HYV3, LA180HYV3

Table 13: LAN150HYV3/LAU150HYV3 Cooling Capacities.

Outdoor Air Temp. (°F DB)	Indoor Air Temperature (°F DB/ °F WB)																				
	64 / 53			68 / 57			72 / 61			77 / 64			80 / 67			86 / 72			90 / 75		
	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
0	9.08	7.45	0.39	11.36	7.94	0.46	13.63	8.42	0.53	16.47	9.02	0.62	18.18	9.38	0.67	15.17	10.23	0.55	13.16	10.80	0.47
5	8.91	7.35	0.41	11.14	7.82	0.48	13.37	8.30	0.56	16.16	8.89	0.65	17.83	9.25	0.70	14.88	10.09	0.57	12.91	10.65	0.49
7	8.97	7.41	0.41	11.22	7.90	0.49	13.46	8.38	0.56	16.27	8.98	0.66	17.95	9.34	0.71	14.98	10.18	0.58	13.00	10.75	0.49
10	9.06	7.52	0.42	11.33	8.00	0.49	13.60	8.49	0.57	16.43	9.10	0.67	18.14	9.46	0.72	15.13	10.32	0.59	13.13	10.89	0.50
14	9.18	7.65	0.43	11.48	8.15	0.50	13.78	8.64	0.58	16.66	9.26	0.68	18.38	9.64	0.74	15.34	10.51	0.60	13.31	11.09	0.51
23	9.86	8.22	0.42	11.86	8.75	0.51	13.86	9.28	0.60	16.36	9.94	0.71	17.86	10.34	0.77	15.72	11.28	0.62	14.29	11.91	0.51
25	10.01	8.35	0.43	11.97	8.86	0.52	13.93	9.38	0.60	16.38	10.02	0.71	17.85	10.41	0.78	15.89	11.40	0.63	14.59	12.07	0.53
30	10.40	8.67	0.46	12.25	9.14	0.54	14.10	9.62	0.62	16.42	10.22	0.72	17.80	10.57	0.78	16.33	11.71	0.65	15.34	12.46	0.56
35	10.79	8.99	0.50	12.53	9.43	0.57	14.27	9.87	0.64	16.45	10.41	0.73	17.76	10.74	0.79	16.76	12.01	0.68	16.09	12.85	0.60
40	11.17	9.31	0.53	12.81	9.71	0.59	14.45	10.11	0.66	16.49	10.61	0.74	17.72	10.91	0.79	17.19	12.31	0.70	16.84	13.25	0.64
45	11.56	9.64	0.56	13.09	10.00	0.62	14.62	10.36	0.68	16.53	10.81	0.75	17.68	11.08	0.80	17.62	12.62	0.73	17.59	13.64	0.68
50	11.95	9.96	0.59	13.37	10.28	0.64	14.79	10.60	0.70	16.57	11.00	0.77	17.63	11.24	0.81	18.06	12.92	0.75	18.34	14.04	0.71
55	12.34	10.28	0.62	13.65	10.56	0.67	14.96	10.84	0.72	16.61	11.20	0.78	17.59	11.41	0.81	18.49	13.22	0.78	19.09	14.43	0.75
60	12.72	10.60	0.65	13.93	10.85	0.69	15.14	11.09	0.74	16.64	11.39	0.79	17.55	11.58	0.82	18.92	13.52	0.80	19.83	14.82	0.79
65	12.61	10.51	0.69	13.75	10.80	0.73	14.90	11.10	0.77	16.33	11.47	0.81	17.19	11.69	0.84	18.56	13.53	0.84	19.47	14.76	0.83
70	12.49	10.41	0.72	13.57	10.76	0.76	14.66	11.11	0.80	16.01	11.54	0.84	16.82	11.80	0.87	18.19	13.54	0.87	19.10	14.70	0.87
75	12.38	10.31	0.75	13.40	10.71	0.79	14.42	11.11	0.82	15.69	11.61	0.87	16.46	11.91	0.90	17.82	13.55	0.91	18.74	14.64	0.91
80	12.26	10.22	0.79	13.22	10.67	0.82	14.18	11.12	0.85	15.37	11.69	0.90	16.09	12.02	0.92	17.46	13.56	0.94	18.37	14.58	0.95
85	12.14	10.12	0.82	13.04	10.63	0.85	13.94	11.13	0.88	15.06	11.76	0.92	15.73	12.14	0.95	17.09	13.56	0.97	18.00	14.52	0.99
90	12.03	10.03	0.85	12.86	10.58	0.88	13.70	11.14	0.91	14.74	11.83	0.95	15.36	12.25	0.97	16.73	13.57	1.01	17.64	14.45	1.03
95	11.91	9.93	0.89	12.68	10.54	0.91	13.46	11.15	0.94	14.42	11.90	0.98	15.00	12.36	1.00	16.36	13.58	1.04	17.27	14.39	1.07
100	11.60	9.67	0.90	12.39	10.31	0.93	13.18	10.94	0.96	14.17	11.74	0.99	14.77	12.21	1.02	16.08	13.36	1.06	16.96	14.13	1.09
105	11.29	9.41	0.91	12.10	10.07	0.94	12.91	10.74	0.97	13.92	11.57	1.01	14.53	12.06	1.03	15.80	13.15	1.07	16.64	13.87	1.10
110	10.98	9.15	0.93	11.81	9.84	0.96	12.64	10.53	0.99	13.68	11.40	1.02	14.30	11.92	1.05	15.52	12.93	1.09	16.33	13.61	1.12
115	10.59	8.82	0.94	11.39	9.49	0.97	12.19	10.17	1.00	13.20	11.01	1.03	13.80	11.51	1.06	14.99	12.50	1.10	15.78	13.15	1.13
118	10.35	8.63	0.94	11.14	9.29	0.97	11.93	9.95	1.00	12.91	10.78	1.04	13.50	11.27	1.06	14.67	12.23	1.11	15.45	12.88	1.14

Table 14: LAN180HYV3/LAU180HYV3 Cooling Capacities.

Outdoor Air Temp. (°F DB)	Indoor Air Temperature (°F DB/ °F WB)																				
	64 / 53			68 / 57			72 / 61			77 / 64			80 / 67			86 / 72			90 / 75		
	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
0	10.90	8.74	0.49	13.63	9.30	0.57	16.36	9.87	0.66	19.77	10.58	0.77	21.81	11.00	0.84	18.20	12.00	0.69	15.79	12.66	0.58
5	10.69	8.61	0.51	13.37	9.17	0.60	16.04	9.73	0.69	19.39	10.43	0.81	21.40	10.85	0.88	17.85	11.83	0.72	15.49	12.48	0.61
7	10.76	8.69	0.51	13.46	9.26	0.61	16.15	9.82	0.70	19.52	10.52	0.82	21.54	10.95	0.89	17.98	11.94	0.73	15.60	12.60	0.62
10	10.87	8.81	0.52	13.60	9.38	0.62	16.32	9.95	0.71	19.72	10.67	0.83	21.76	11.10	0.90	18.16	12.10	0.74	15.76	12.77	0.63
14	11.02	8.97	0.53	13.78	9.55	0.63	16.54	10.13	0.73	19.99	10.86	0.85	22.06	11.30	0.92	18.41	12.32	0.75	15.97	13.00	0.64
23	11.83	9.63	0.53	14.23	10.26	0.64	16.63	10.88	0.75	19.64	11.66	0.88	21.44	12.12	0.97	18.86	13.23	0.77	17.15	13.96	0.64
25	12.02	9.78	0.54	14.37	10.39	0.65	16.72	10.99	0.76	19.65	11.75	0.89	21.42	12.20	0.97	19.07	13.37	0.78	17.51	14.15	0.66
30	12.48	10.16	0.58	14.70	10.72	0.68	16.92	11.28	0.78	19.70	11.98	0.90	21.37	12.40	0.98	19.59	13.72	0.81	18.41	14.61	0.71
35	12.95	10.54	0.62	15.04	11.05	0.71	17.13	11.57	0.80	19.75	12.21	0.92	21.31	12.59	0.98	20.11	14.08	0.84	19.31	15.07	0.75
40	13.41	10.92	0.66	15.37	11.39	0.74	17.34	11.85	0.83	19.79	12.44	0.93	21.26	12.79	0.99	20.63	14.43	0.88	20.21	15.53	0.80
45	13.87	11.30	0.70	15.71	11.72	0.77	17.54	12.14	0.85	19.84	12.67	0.94	21.21	12.98	1.00	21.15	14.79	0.91	21.10	15.99	0.85
50	14.34	11.67	0.74	16.04	12.05	0.81	17.75	12.43	0.87	19.88	12.90	0.96	21.16	13.18	1.01	21.67	15.14	0.94	22.00	16.45	0.89
55	14.80	12.05	0.78	16.38	12.38	0.84	17.96	12.71	0.90	19.93	13.13	0.97	21.11	13.38	1.02	22.19	15.50	0.97	22.90	16.92	0.94
60	15.27	12.43	0.82	16.72	12.71	0.87	18.16	13.00	0.92	19.97	13.36	0.98	21.06	13.57	1.02	22.70	15.86	1.00	23.80	17.38	0.99
65	15.13	12.32	0.86	16.50	12.66	0.91	17.88	13.01	0.96	19.59	13.44	1.02	20.62	13.70	1.06	22.27	15.86	1.04	23.36	17.31	1.04
70	14.99	12.20	0.90	16.29	12.61	0.95	17.59	13.02	0.99	19.21	13.53	1.05	20.19	13.83	1.09	21.83	15.87	1.09	22.92	17.23	1.09
75	14.85	12.09	0.94	16.07	12.56	0.99	17.30	13.03	1.03	18.83	13.61	1.09	19.75	13.97	1.12	21.39	15.88	1.13	22.48	17.16	1.14
80	14.71	11.98	0.98	15.86	12.51	1.03	17.01	13.04	1.07	18.45	13.70	1.12	19.31	14.10	1.15	20.95	15.89	1.18	22.04	17.09	1.19
85	14.57	11.87	1.02	15.65	12.46	1.06	16.72	13.05	1.10	18.07	13.79	1.16	18.87	14.23	1.19	20.51	15.90	1.22	21.60	17.02	1.24
90	14.43	11.76	1.07	15.43	12.41	1.10	16.43	13.06	1.14	17.69	13.87	1.19	18.44	14.36	1.22	20.07	15.91	1.26	21.16	16.95	1.29
95	14.29	11.64	1.11	15.22	12.35	1.14	16.15	13.07	1.18	17.31	13.96	1.22	18.00	14.49	1.25	19.63	15.92	1.31	20.72	16.87	1.34
100	13.92	11.34	1.12	14.87	12.08	1.16	15.82	12.83	1.20	17.01	13.76	1.24	17.72	14.32	1.27	19.30	15.67	1.32	20.35	16.57	1.36
105	13.55	11.03	1.14	14.52	11.81	1.18	15.49	12.59	1.21	16.71	13.56	1.26	17.44	14.14	1.29	18.96	15.41	1.34	19.97	16.26	1.38
110	13.17	10.72	1.16	14.17	11.54	1.19	15.17	12.35	1.23	16.41	13.36	1.28	17.16	13.97	1.31	18.62	15.16	1.36	19.60	15.95	1.40
115	12.70	10.34	1.17	13.67	11.13	1.21	14.63	11.92	1.25	15.84	12.91	1.29	16.56	13.50	1.32	17.99	14.65	1.38	18.94	15.42	1.42
118	12.42	10.11	1.18	13.37	10.89	1.22	14.31	11.66	1.25	15.49	12.63	1.30	16.20	13.22	1.33	17.60	14.34	1.39	18.54	15.09	1.43

PERFORMANCE DATA

Cooling Capacity

LA240HYV3

Table 15: LAN240HYV3/LAU240HYV3 Cooling Capacities.

Outdoor Air Temp. (°F DB)	Indoor Air Temperature (°F DB/ °F WB)																				
	64 / 53			68 / 57			72 / 61			77 / 64			80 / 67			86 / 72			90 / 75		
	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
0	13.32	10.35	0.66	16.66	11.02	0.78	19.99	11.69	0.90	24.16	12.53	1.05	26.66	13.03	1.14	22.25	14.21	0.93	19.30	15.00	0.79
5	13.07	10.20	0.69	16.34	10.86	0.81	19.61	11.52	0.94	23.70	12.35	1.10	26.15	12.84	1.19	21.82	14.01	0.97	18.93	14.78	0.83
7	13.16	10.29	0.70	16.45	10.96	0.82	19.74	11.63	0.95	23.86	12.46	1.11	26.33	12.96	1.20	21.97	14.14	0.98	19.06	14.92	0.83
10	13.29	10.44	0.71	16.62	11.11	0.84	19.95	11.79	0.97	24.10	12.63	1.13	26.60	13.14	1.22	22.20	14.33	1.00	19.26	15.12	0.85
14	13.47	10.62	0.72	16.84	11.31	0.85	20.22	12.00	0.99	24.43	12.86	1.15	26.96	13.38	1.25	22.50	14.59	1.02	19.52	15.40	0.87
23	14.46	11.41	0.71	17.40	12.14	0.86	20.33	12.88	1.01	24.00	13.80	1.20	26.20	14.36	1.31	23.06	15.66	1.04	20.96	16.53	0.87
25	14.69	11.59	0.73	17.56	12.30	0.88	20.43	13.02	1.02	24.02	13.91	1.20	26.18	14.45	1.31	23.31	15.83	1.06	21.40	16.75	0.89
30	15.25	12.03	0.79	17.97	12.70	0.92	20.68	13.36	1.05	24.08	14.19	1.22	26.11	14.68	1.32	23.94	16.25	1.10	22.50	17.30	0.95
35	15.82	12.48	0.84	18.38	13.09	0.96	20.94	13.70	1.09	24.13	14.46	1.24	26.05	14.91	1.33	24.58	16.67	1.14	23.60	17.85	1.02
40	16.39	12.93	0.89	18.79	13.48	1.01	21.19	14.04	1.12	24.19	14.73	1.26	25.99	15.15	1.34	25.21	17.09	1.19	24.70	18.39	1.08
45	16.96	13.38	0.95	19.20	13.88	1.05	21.44	14.38	1.15	24.24	15.00	1.28	25.93	15.38	1.35	25.85	17.51	1.23	25.79	18.94	1.15
50	17.52	13.82	1.00	19.61	14.27	1.09	21.69	14.72	1.18	24.30	15.27	1.30	25.86	15.61	1.36	26.48	17.94	1.27	26.89	19.49	1.21
55	18.09	14.27	1.05	20.02	14.66	1.13	21.95	15.06	1.21	24.36	15.55	1.31	25.80	15.84	1.37	27.12	18.36	1.31	27.99	20.03	1.27
60	18.66	14.72	1.11	20.43	15.06	1.18	22.20	15.40	1.24	24.41	15.82	1.33	25.74	16.07	1.38	27.75	18.78	1.36	29.09	20.58	1.34
65	18.49	14.59	1.16	20.17	15.00	1.23	21.85	15.41	1.30	23.95	15.92	1.38	25.21	16.23	1.43	27.21	18.79	1.41	28.55	20.49	1.40
70	18.32	14.45	1.22	19.91	14.94	1.28	21.50	15.42	1.35	23.48	16.02	1.42	24.67	16.38	1.47	26.68	18.80	1.47	28.02	20.41	1.47
75	18.15	14.32	1.27	19.65	14.88	1.33	21.14	15.43	1.40	23.01	16.12	1.47	24.14	16.54	1.52	26.14	18.81	1.53	27.48	20.32	1.54
80	17.98	14.19	1.33	19.39	14.81	1.39	20.79	15.44	1.45	22.55	16.22	1.52	23.60	16.69	1.56	25.61	18.82	1.59	26.94	20.24	1.61
85	17.81	14.05	1.39	19.12	14.75	1.44	20.44	15.45	1.50	22.08	16.33	1.56	23.07	16.85	1.60	25.07	18.83	1.65	26.40	20.15	1.68
90	17.64	13.92	1.44	18.86	14.69	1.49	20.09	15.46	1.55	21.62	16.43	1.61	22.53	17.00	1.65	24.53	18.84	1.71	25.87	20.07	1.75
95	17.47	13.79	1.50	18.60	14.63	1.55	19.74	15.47	1.60	21.15	16.53	1.66	22.00	17.16	1.69	24.00	18.85	1.77	25.33	19.98	1.82
100	17.01	13.43	1.52	18.17	14.31	1.57	19.34	15.19	1.62	20.79	16.29	1.68	21.66	16.95	1.72	23.58	18.55	1.79	24.87	19.62	1.84
105	16.56	13.06	1.54	17.75	13.98	1.59	18.94	14.91	1.64	20.42	16.06	1.71	21.31	16.75	1.74	23.17	18.25	1.82	24.41	19.26	1.87
110	16.10	12.70	1.57	17.32	13.66	1.62	18.54	14.62	1.67	20.06	15.82	1.73	20.97	16.54	1.77	22.76	17.95	1.84	23.95	18.89	1.89
115	15.53	12.25	1.59	16.70	13.18	1.64	17.88	14.12	1.69	19.35	15.28	1.75	20.24	15.99	1.79	21.98	17.35	1.87	23.14	18.26	1.92
118	15.18	11.98	1.60	16.34	12.89	1.65	17.49	13.81	1.70	18.93	14.96	1.76	19.80	15.65	1.80	21.52	16.99	1.88	22.66	17.88	1.93

Performance Data

- DB: Dry Bulb Temperature (°F) WB: Wet Bulb Temperature (°F) TC: Total Capacity (kBtu/h)
 SHC: Sensible Capacity (kBtu/h) PI: Power Input (kW) (includes compressor, indoor fan motor and outdoor fan motor)
1. All capacities are net, evaporator fan motor heat is deducted.
 2. Cooling range with the Low Ambient Baffle Kit (sold separately) is 0°F to +122°F.
 3. Grey shading indicates reference data. When operating the unit at this temperature, these values

- can be different by discontinuous operation.
4. Direct interpolation is permissible. Do not extrapolate.
- 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).



PERFORMANCE DATA

Maximum Cooling Capacity

LA090HYV3, LA120HYV3

Table 16: LAN090HYV3/LAU090HYV3 Maximum Cooling Capacities.

Outdoor Air Temp. (°F DB)	Indoor Air Temperature (°F DB/ °F WB)																				
	64 / 53			68 / 57			72 / 61			77 / 64			80 / 67			86 / 72			90 / 75		
	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
0	7.87	5.89	0.29	9.84	6.27	0.34	11.82	6.65	0.39	14.28	7.13	0.46	15.76	7.41	0.50	13.15	8.08	0.41	11.41	8.53	0.35
5	7.72	5.80	0.30	9.66	6.18	0.36	11.59	6.55	0.41	14.01	7.02	0.48	15.46	7.31	0.52	12.90	7.97	0.43	11.19	8.41	0.36
7	7.78	5.86	0.30	9.72	6.24	0.36	11.67	6.62	0.42	14.10	7.09	0.49	15.56	7.37	0.53	12.99	8.04	0.43	11.27	8.49	0.36
10	7.86	5.94	0.31	9.82	6.32	0.37	11.79	6.71	0.42	14.25	7.19	0.49	15.72	7.48	0.54	13.12	8.15	0.44	11.38	8.60	0.37
14	7.96	6.04	0.32	9.96	6.43	0.37	11.95	6.83	0.43	14.44	7.32	0.50	15.94	7.61	0.55	13.30	8.30	0.45	11.54	8.76	0.38
23	8.55	6.49	0.31	10.28	6.91	0.38	12.02	7.33	0.44	14.19	7.85	0.52	15.49	8.17	0.57	13.63	8.91	0.46	12.39	9.40	0.38
25	8.68	6.59	0.32	10.38	7.00	0.38	12.08	7.41	0.45	14.20	7.91	0.53	15.47	8.22	0.57	13.78	9.01	0.46	12.65	9.53	0.39
30	9.02	6.85	0.34	10.62	7.22	0.40	12.23	7.60	0.46	14.23	8.07	0.53	15.44	8.35	0.58	14.15	9.25	0.48	13.30	9.84	0.42
35	9.35	7.10	0.37	10.86	7.45	0.42	12.38	7.79	0.48	14.26	8.22	0.54	15.40	8.48	0.58	14.53	9.48	0.50	13.95	10.15	0.45
40	9.69	7.35	0.39	11.11	7.67	0.44	12.52	7.99	0.49	14.30	8.38	0.55	15.36	8.62	0.59	14.90	9.72	0.52	14.60	10.46	0.47
45	10.02	7.61	0.41	11.35	7.89	0.46	12.67	8.18	0.50	14.33	8.53	0.56	15.33	8.75	0.59	15.28	9.96	0.54	15.25	10.77	0.50
50	10.36	7.86	0.44	11.59	8.12	0.48	12.82	8.37	0.52	14.36	8.69	0.57	15.29	8.88	0.60	15.65	10.20	0.56	15.90	11.09	0.53
55	10.69	8.12	0.46	11.83	8.34	0.50	12.97	8.56	0.53	14.40	8.84	0.57	15.25	9.01	0.60	16.03	10.44	0.57	16.55	11.40	0.56
60	11.03	8.37	0.48	12.08	8.57	0.51	13.12	8.76	0.54	14.43	9.00	0.58	15.21	9.14	0.61	16.40	10.68	0.59	17.20	11.71	0.58
65	10.93	8.30	0.51	11.92	8.53	0.54	12.91	8.76	0.57	14.15	9.06	0.60	14.90	9.23	0.62	16.09	10.69	0.62	16.88	11.66	0.61
70	10.83	8.22	0.53	11.77	8.50	0.56	12.71	8.77	0.59	13.88	9.11	0.62	14.58	9.32	0.64	15.77	10.69	0.64	16.56	11.61	0.64
75	10.73	8.15	0.56	11.61	8.46	0.58	12.50	8.78	0.61	13.60	9.17	0.64	14.27	9.41	0.66	15.45	10.70	0.67	16.24	11.56	0.67
80	10.63	8.07	0.58	11.46	8.43	0.61	12.29	8.78	0.63	13.33	9.23	0.66	13.95	9.50	0.68	15.14	10.71	0.70	15.93	11.51	0.70
85	10.53	8.00	0.61	11.30	8.39	0.63	12.08	8.79	0.65	13.05	9.29	0.68	13.64	9.58	0.70	14.82	10.71	0.72	15.61	11.46	0.73
90	10.43	7.92	0.63	11.15	8.36	0.65	11.87	8.80	0.68	12.78	9.34	0.70	13.32	9.67	0.72	14.50	10.72	0.75	15.29	11.42	0.76
95	10.33	7.84	0.66	11.00	8.32	0.68	11.67	8.80	0.70	12.50	9.40	0.72	13.00	9.76	0.74	14.19	10.73	0.77	14.97	11.37	0.79
100	10.06	7.64	0.67	10.74	8.14	0.69	11.43	8.64	0.71	12.29	9.27	0.74	12.80	9.64	0.75	13.94	10.55	0.78	14.70	11.16	0.81
105	9.79	7.43	0.68	10.49	7.96	0.70	11.19	8.48	0.72	12.07	9.13	0.75	12.60	9.53	0.76	13.70	10.38	0.80	14.43	10.95	0.82
110	9.52	7.23	0.69	10.24	7.77	0.71	10.96	8.32	0.73	11.86	9.00	0.76	12.40	9.41	0.77	13.45	10.21	0.81	14.16	10.75	0.83
115	9.18	6.97	0.69	9.87	7.50	0.72	10.57	8.03	0.74	11.44	8.69	0.77	11.96	9.09	0.78	12.99	9.87	0.82	13.68	10.39	0.84
118	8.97	6.81	0.70	9.66	7.34	0.72	10.34	7.86	0.74	11.19	8.51	0.77	11.70	8.90	0.79	12.72	9.66	0.82	13.39	10.17	0.85

Table 17: LAN120HYV3/LAU120HYV3 Maximum Cooling Capacities.

Outdoor Air Temp. (°F DB)	Indoor Air Temperature (°F DB/ °F WB)																				
	64 / 53			68 / 57			72 / 61			77 / 64			80 / 67			86 / 72			90 / 75		
	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
0	8.35	6.18	0.44	10.44	6.58	0.52	12.52	6.98	0.61	15.14	7.48	0.71	16.70	7.78	0.77	13.94	8.48	0.63	12.09	8.95	0.53
5	8.19	6.09	0.46	10.24	6.48	0.55	12.29	6.88	0.63	14.85	7.37	0.74	16.38	7.67	0.80	13.67	8.36	0.66	11.86	8.82	0.56
7	8.24	6.14	0.47	10.31	6.54	0.55	12.37	6.94	0.64	14.95	7.44	0.75	16.50	7.74	0.81	13.77	8.44	0.66	11.94	8.90	0.56
10	8.33	6.23	0.48	10.41	6.63	0.56	12.50	7.04	0.65	15.10	7.54	0.76	16.67	7.84	0.83	13.91	8.55	0.67	12.07	9.03	0.57
14	8.44	6.34	0.49	10.55	6.75	0.58	12.67	7.16	0.66	15.31	7.68	0.78	16.89	7.98	0.84	14.09	8.71	0.69	12.23	9.19	0.58
23	9.06	6.81	0.48	10.90	7.25	0.58	12.74	7.69	0.68	15.04	8.24	0.81	16.42	8.57	0.88	14.45	9.35	0.70	13.13	9.87	0.58
25	9.20	6.92	0.49	11.00	7.34	0.59	12.80	7.77	0.69	15.05	8.30	0.81	16.40	8.62	0.88	14.60	9.45	0.71	13.41	10.00	0.60
30	9.56	7.18	0.53	11.26	7.58	0.62	12.96	7.97	0.71	15.09	8.47	0.82	16.36	8.76	0.89	15.00	9.70	0.74	14.10	10.32	0.64
35	9.91	7.45	0.57	11.52	7.81	0.65	13.12	8.18	0.73	15.12	8.63	0.84	16.32	8.90	0.90	15.40	9.95	0.77	14.78	10.65	0.69
40	10.27	7.72	0.60	11.77	8.05	0.68	13.28	8.38	0.75	15.16	8.79	0.85	16.28	9.04	0.91	15.80	10.20	0.80	15.47	10.98	0.73
45	10.62	7.98	0.64	12.03	8.28	0.71	13.43	8.58	0.78	15.19	8.95	0.86	16.24	9.18	0.91	16.19	10.45	0.83	16.16	11.30	0.77
50	10.98	8.25	0.67	12.29	8.52	0.74	13.59	8.78	0.80	15.23	9.12	0.87	16.21	9.32	0.92	16.59	10.70	0.86	16.85	11.63	0.82
55	11.34	8.52	0.71	12.54	8.75	0.76	13.75	8.99	0.82	15.26	9.28	0.89	16.17	9.45	0.93	16.99	10.96	0.89	17.54	11.96	0.86
60	11.69	8.79	0.75	12.80	8.99	0.79	13.91	9.19	0.84	15.30	9.44	0.90	16.13	9.59	0.93	17.39	11.21	0.91	18.23	12.28	0.90
65	11.58	8.71	0.78	12.64	8.95	0.83	13.69	9.20	0.87	15.00	9.50	0.93	15.79	9.69	0.96	17.05	11.21	0.95	17.89	12.23	0.95
70	11.48	8.63	0.82	12.47	8.91	0.86	13.47	9.20	0.91	14.71	9.56	0.96	15.46	9.78	0.99	16.72	11.22	0.99	17.55	12.18	0.99
75	11.37	8.55	0.86	12.31	8.88	0.90	13.25	9.21	0.94	14.42	9.62	0.99	15.12	9.87	1.02	16.38	11.23	1.03	17.22	12.13	1.04
80	11.27	8.47	0.90	12.15	8.84	0.94	13.03	9.22	0.98	14.13	9.68	1.02	14.79	9.96	1.05	16.04	11.23	1.07	16.88	12.08	1.09
85	11.16	8.39	0.94	11.98	8.81	0.97	12.81	9.22	1.01	13.84	9.74	1.05	14.45	10.06	1.08	15.71	11.24	1.11	16.54	12.03	1.13
90	11.05	8.31	0.97	11.82	8.77	1.01	12.59	9.23	1.04	13.54	9.80	1.09	14.12	10.15	1.11	15.37	11.25	1.15	16.21	11.98	1.18
95	10.95	8.23	1.01	11.66	8.73	1.04	12.37	9.24	1.08	13.25	9.86	1.12	13.78	10.24	1.14	15.04	11.25	1.19	15.87	11.93	1.23
100	10.66	8.01	1.03	11.39	8.54	1.06	12.11	9.07	1.09	13.02	9.72	1.13	13.57	10.12	1.16	14.78	11.07	1.21	15.58	11.71	1.24
105	10.37	7.80	1.04	11.12	8.35	1.08	11.86	8.90	1.11	12.80	9.58	1.15	13.35	10.00	1.18	14.52	10.89	1.23	15.29	11.49	1.26
110	10.09	7.58	1.06	10.85	8.15	1.09	11.61	8.73	1.13	12.57	9.44	1.17	13.14	9.87	1.19	14.26	10.72	1.24	15.01	11.28	1.28
115	9.73	7.31	1.07	10.47	7.87	1.10	11.20	8.43	1.14	12.13	9.12	1.18	12.68	9.54	1.21	13.77	10.35	1.26	14.50	10.90	1.29
118	9.51	7.15	1.08	10.23	7.70	1.11	10.96	8.24	1.14	11.86	8.93	1.19	12.41	9.34	1.21	13.48	10.14	1.27	14.20	10.67	1.30

PERFORMANCE DATA

Maximum Cooling Capacity

LA150HYV3, LA180HYV3

Table 18: LAN150HYV3/LAU150HYV3 Maximum Cooling Capacities.

Outdoor Air Temp. (°F DB)	Indoor Air Temperature (°F DB/ °F WB)																				
	64 / 53			68 / 57			72 / 61			77 / 64			80 / 67			86 / 72			90 / 75		
	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
0	12.72	10.52	0.67	15.90	11.20	0.79	19.08	11.89	0.92	23.06	12.74	1.07	25.45	13.25	1.16	21.24	14.45	0.95	18.43	15.25	0.81
5	12.47	10.37	0.70	15.60	11.04	0.83	18.72	11.72	0.96	22.62	12.56	1.12	24.96	13.06	1.22	20.83	14.24	0.99	18.08	15.03	0.84
7	12.56	10.47	0.71	15.70	11.15	0.84	18.85	11.82	0.97	22.78	12.67	1.13	25.14	13.18	1.23	20.97	14.37	1.00	18.20	15.17	0.85
10	12.69	10.61	0.72	15.86	11.30	0.85	19.04	11.99	0.99	23.01	12.85	1.15	25.39	13.36	1.25	21.19	14.57	1.02	18.39	15.38	0.87
14	12.86	10.80	0.74	16.08	11.50	0.87	19.30	12.20	1.01	23.32	13.08	1.18	25.74	13.60	1.28	21.48	14.83	1.04	18.64	15.66	0.88
23	13.80	11.60	0.73	16.61	12.35	0.88	19.41	13.10	1.03	22.91	14.04	1.22	25.01	14.60	1.34	22.01	15.93	1.06	20.01	16.81	0.88
25	14.02	11.78	0.75	16.76	12.51	0.90	19.51	13.24	1.04	22.93	14.15	1.23	24.99	14.69	1.34	22.25	16.10	1.08	20.43	17.03	0.91
30	14.56	12.24	0.80	17.15	12.91	0.94	19.75	13.58	1.08	22.99	14.42	1.25	24.93	14.93	1.35	22.86	16.53	1.13	21.48	17.59	0.98
35	15.11	12.69	0.86	17.55	13.31	0.98	19.99	13.93	1.11	23.04	14.70	1.27	24.87	15.16	1.36	23.46	16.95	1.17	22.53	18.15	1.04
40	15.65	13.15	0.91	17.94	13.71	1.03	20.23	14.27	1.14	23.09	14.98	1.29	24.81	15.40	1.37	24.07	17.38	1.21	23.58	18.70	1.11
45	16.19	13.60	0.97	18.33	14.11	1.07	20.47	14.62	1.17	23.15	15.25	1.30	24.75	15.64	1.38	24.68	17.81	1.26	24.63	19.26	1.17
50	16.73	14.06	1.02	18.72	14.51	1.11	20.71	14.96	1.21	23.20	15.53	1.32	24.69	15.87	1.39	25.28	18.24	1.30	25.67	19.81	1.24
55	17.27	14.51	1.08	19.11	14.91	1.16	20.95	15.31	1.24	23.25	15.81	1.34	24.63	16.11	1.40	25.89	18.67	1.34	26.72	20.37	1.30
60	17.81	14.97	1.13	19.50	15.31	1.20	21.19	15.66	1.27	23.31	16.09	1.36	24.57	16.34	1.41	26.49	19.09	1.39	27.77	20.93	1.37
65	17.65	14.83	1.19	19.25	15.25	1.26	20.86	15.67	1.32	22.86	16.19	1.41	24.06	16.50	1.46	25.98	19.10	1.45	27.26	20.84	1.44
70	17.49	14.70	1.24	19.01	15.19	1.31	20.52	15.68	1.37	22.42	16.29	1.46	23.55	16.66	1.50	25.47	19.12	1.51	26.75	20.75	1.51
75	17.33	14.56	1.30	18.76	15.13	1.36	20.19	15.69	1.43	21.97	16.39	1.50	23.04	16.82	1.55	24.96	19.13	1.57	26.23	20.67	1.58
80	17.17	14.43	1.36	18.51	15.06	1.42	19.85	15.70	1.48	21.53	16.50	1.55	22.53	16.97	1.59	24.45	19.14	1.63	25.72	20.58	1.65
85	17.00	14.29	1.42	18.26	15.00	1.47	19.51	15.71	1.53	21.08	16.60	1.60	22.02	17.13	1.64	23.93	19.15	1.69	25.21	20.49	1.72
90	16.84	14.16	1.48	18.01	14.94	1.53	19.18	15.72	1.58	20.64	16.70	1.64	21.51	17.29	1.68	23.42	19.16	1.75	24.69	20.41	1.79
95	16.68	14.02	1.53	17.76	14.88	1.58	18.84	15.74	1.63	20.19	16.81	1.69	21.00	17.45	1.73	22.91	19.17	1.81	24.18	20.32	1.86
100	16.24	13.65	1.56	17.35	14.55	1.61	18.46	15.45	1.66	19.84	16.57	1.72	20.68	17.24	1.76	22.52	18.87	1.83	23.74	19.95	1.88
105	15.81	13.28	1.58	16.94	14.22	1.63	18.08	15.16	1.68	19.50	16.33	1.74	20.35	17.03	1.78	22.12	18.56	1.86	23.30	19.58	1.91
110	15.37	12.91	1.60	16.53	13.89	1.65	17.70	14.87	1.70	19.15	16.09	1.77	20.02	16.82	1.81	21.73	18.26	1.88	22.86	19.21	1.94
115	14.82	12.45	1.62	15.95	13.40	1.67	17.07	14.35	1.72	18.48	15.54	1.79	19.32	16.25	1.83	20.99	17.64	1.91	22.09	18.57	1.96
118	14.49	12.18	1.63	15.59	13.11	1.68	16.70	14.05	1.73	18.08	15.21	1.80	18.90	15.91	1.84	20.54	17.27	1.92	21.63	18.18	1.97

Table 19: LAN180HYV3/LAU180HYV3 Maximum Cooling Capacities.

Outdoor Air Temp. (°F DB)	Indoor Air Temperature (°F DB/ °F WB)																				
	64 / 53			68 / 57			72 / 61			77 / 64			80 / 67			86 / 72			90 / 75		
	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
0	17.87	14.04	0.93	22.34	14.95	1.10	26.82	15.86	1.27	32.41	17.00	1.49	35.77	17.68	1.61	29.84	19.28	1.32	25.90	20.35	1.12
5	17.53	13.84	0.97	21.92	14.74	1.15	26.31	15.63	1.33	31.79	16.76	1.56	35.08	17.43	1.69	29.27	19.01	1.38	25.40	20.06	1.17
7	17.65	13.97	0.98	22.07	14.87	1.17	26.49	15.78	1.35	32.01	16.91	1.57	35.32	17.59	1.71	29.47	19.18	1.39	25.58	20.24	1.18
10	17.83	14.16	1.00	22.29	15.08	1.18	26.76	15.99	1.37	32.34	17.14	1.60	35.69	17.83	1.73	29.78	19.44	1.41	25.84	20.52	1.20
14	18.07	14.41	1.02	22.60	15.35	1.21	27.12	16.28	1.40	32.78	17.45	1.63	36.17	18.15	1.77	30.18	19.79	1.44	26.19	20.89	1.23
23	19.40	15.48	1.01	23.34	16.48	1.22	27.27	17.48	1.43	32.20	18.73	1.69	35.15	19.48	1.85	30.93	21.25	1.48	28.12	22.43	1.23
25	19.70	15.72	1.04	23.56	16.69	1.24	27.41	17.66	1.45	32.23	18.88	1.70	35.12	19.61	1.86	31.27	21.48	1.50	28.71	22.73	1.26
30	20.47	16.33	1.11	24.11	17.23	1.30	27.75	18.12	1.49	32.30	19.25	1.73	35.03	19.92	1.87	32.12	22.05	1.56	30.18	23.47	1.35
35	21.23	16.94	1.19	24.66	17.76	1.36	28.09	18.59	1.54	32.38	19.62	1.76	34.95	20.24	1.89	32.97	22.62	1.62	31.66	24.21	1.44
40	21.99	17.54	1.26	25.21	18.29	1.42	28.43	19.05	1.58	32.45	19.99	1.78	34.87	20.55	1.90	33.82	23.19	1.68	33.13	24.96	1.53
45	22.75	18.15	1.34	25.76	18.83	1.48	28.77	19.51	1.63	32.53	20.36	1.81	34.78	20.86	1.92	34.68	23.76	1.74	34.60	25.70	1.62
50	23.51	18.76	1.42	26.31	19.36	1.54	29.11	19.97	1.67	32.60	20.72	1.84	34.70	21.18	1.93	35.53	24.34	1.80	36.08	26.44	1.71
55	24.27	19.37	1.49	26.86	19.90	1.60	29.44	20.43	1.72	32.68	21.09	1.86	34.62	21.49	1.95	36.38	24.91	1.86	37.55	27.18	1.80
60	25.03	19.97	1.57	27.41	20.43	1.67	29.78	20.89	1.76	32.75	21.46	1.89	34.53	21.81	1.96	37.23	25.48	1.92	39.03	27.92	1.89
65	24.81	19.79	1.65	27.06	20.35	1.74	29.31	20.91	1.84	32.13	21.60	1.95	33.82	22.02	2.02	36.51	25.49	2.00	38.31	27.81	1.99
70	24.58	19.61	1.73	26.71	20.27	1.82	28.84	20.92	1.91	31.50	21.74	2.02	33.10	22.23	2.09	35.79	25.51	2.09	37.59	27.69	2.09
75	24.35	19.43	1.81	26.36	20.18	1.89	28.37	20.94	1.98	30.88	21.88	2.08	32.38	22.44	2.15	35.07	25.52	2.17	36.86	27.58	2.19
80	24.12	19.25	1.89	26.01	20.10	1.97	27.89	20.95	2.05	30.25	22.01	2.15	31.67	22.65	2.21	34.35	25.54	2.25	36.14	27.46	2.28
85	23.89	19.07	1.97	25.66	20.02	2.04	27.42	20.97	2.12	29.63	22.15	2.22	30.95	22.86	2.27	33.63	25.55	2.34	35.42	27.34	2.38
90	23.67	18.89	2.05	25.31	19.94	2.12	26.95	20.98	2.19	29.00	22.29	2.28	30.23	23.07	2.34	32.91	25.57	2.42	34.70	27.23	2.48
95	23.44	18.71	2.13	24.96	19.85	2.19	26.48	21.00	2.26	28.38	22.43	2.35	29.51	23.28	2.40	32.20	25.58	2.50	33.98	27.11	2.57
100	22.82	18.22	2.16	24.38	19.41	2.23	25.94	20.61	2.30	27.89	22.11	2.38	29.05	23.00	2.43	31.64	25.17	2.54	33.37	26.62	2.61
105	22.21	17.73	2.19	23.81	18.98	2.26	25.40	20.23	2.33	27.40	21.79	2.42	28.59	22.72	2.47	31.09	24.77	2.58	32.75	26.13	2.65
110	21.60	17.23	2.22	23.23	18.54	2.29	24.87	19.84	2.36	26.91	21.47	2.45	28.13	22.45	2.51	30.53	24.36	2.61	32.13	25.64	2.68
115	20.83	16.62	2.25	22.41	17.89	2.32	23.99	19.15	2.39	25.97	20.74	2.48	27.15	21.69	2.53	29.49	23.54	2.64	31.05	24.77	2.72
118	20.37	16.25	2.26	21.91	17.50	2.33	23.46	18.74	2.40	25.40	20.30	2.49	26.56	21.24	2.55	28.87	23.05	2.66	30.40	24.25	2.74

PERFORMANCE DATA

Maximum Cooling Capacity

LA240HYV3

Table 20: LAN240HYV3/LAU240HYV3 Maximum Cooling Capacities.

Outdoor Air Temp. (°F DB)	Indoor Air Temperature (°F DB/ °F WB)																				
	64 / 53			68 / 57			72 / 61			77 / 64			80 / 67			86 / 72			90 / 75		
	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
0	18.16	13.94	1.23	22.71	14.84	1.46	27.26	15.74	1.68	32.94	16.87	1.96	36.36	17.55	2.13	30.34	19.14	1.74	26.32	20.20	1.48
5	17.82	13.74	1.29	22.28	14.63	1.52	26.74	15.52	1.76	32.31	16.63	2.06	35.66	17.30	2.23	29.76	18.87	1.82	25.82	19.91	1.55
7	17.94	13.86	1.30	22.43	14.76	1.54	26.92	15.66	1.78	32.54	16.78	2.08	35.91	17.46	2.26	29.96	19.04	1.84	26.00	20.09	1.56
10	18.12	14.05	1.32	22.66	14.97	1.57	27.20	15.88	1.81	32.87	17.01	2.11	36.27	17.70	2.29	30.27	19.30	1.87	26.26	20.37	1.59
14	18.37	14.31	1.35	22.97	15.24	1.60	27.57	16.16	1.85	33.32	17.32	2.16	36.76	18.02	2.34	30.68	19.65	1.91	26.62	20.74	1.62
23	19.72	15.36	1.33	23.72	16.36	1.61	27.72	17.35	1.89	32.73	18.59	2.24	35.73	19.34	2.45	31.44	21.09	1.95	28.58	22.27	1.62
25	20.03	15.61	1.37	23.94	16.57	1.64	27.86	17.53	1.91	32.76	18.74	2.25	35.69	19.46	2.46	31.79	21.32	1.98	29.18	22.56	1.67
30	20.80	16.21	1.47	24.50	17.10	1.72	28.21	17.99	1.97	32.83	19.11	2.29	35.61	19.77	2.48	32.65	21.89	2.06	30.68	23.30	1.79
35	21.58	16.81	1.57	25.06	17.63	1.80	28.55	18.45	2.03	32.91	19.47	2.32	35.53	20.09	2.50	33.52	22.46	2.14	32.18	24.04	1.91
40	22.35	17.41	1.67	25.62	18.16	1.88	28.90	18.91	2.09	32.99	19.84	2.36	35.44	20.40	2.51	34.38	23.02	2.22	33.68	24.77	2.03
45	23.12	18.02	1.77	26.18	18.69	1.96	29.24	19.36	2.15	33.06	20.21	2.39	35.36	20.71	2.53	35.25	23.59	2.30	35.17	25.51	2.15
50	23.90	18.62	1.87	26.74	19.22	2.04	29.58	19.82	2.21	33.14	20.57	2.43	35.27	21.02	2.55	36.11	24.16	2.38	36.67	26.25	2.26
55	24.67	19.22	1.97	27.30	19.75	2.12	29.93	20.28	2.27	33.21	20.94	2.46	35.19	21.33	2.57	36.98	24.72	2.46	38.17	26.98	2.38
60	25.45	19.83	2.07	27.86	20.28	2.20	30.27	20.74	2.33	33.29	21.31	2.49	35.10	21.65	2.59	37.84	25.29	2.54	39.67	27.72	2.50
65	25.21	19.65	2.18	27.50	20.20	2.30	29.79	20.75	2.43	32.66	21.44	2.58	34.37	21.86	2.68	37.11	25.30	2.65	38.94	27.60	2.63
70	24.98	19.47	2.28	27.15	20.12	2.40	29.31	20.77	2.52	32.02	21.58	2.67	33.64	22.07	2.76	36.38	25.32	2.76	38.20	27.49	2.76
75	24.75	19.29	2.39	26.79	20.03	2.50	28.83	20.78	2.61	31.38	21.71	2.75	32.92	22.27	2.84	35.65	25.33	2.87	37.47	27.37	2.89
80	24.52	19.11	2.49	26.44	19.95	2.60	28.35	20.80	2.71	30.75	21.85	2.84	32.19	22.48	2.92	34.92	25.35	2.98	36.74	27.26	3.02
85	24.29	18.93	2.60	26.08	19.87	2.70	27.87	20.81	2.80	30.11	21.99	2.93	31.46	22.69	3.00	34.19	25.36	3.09	36.01	27.14	3.15
90	24.06	18.75	2.70	25.72	19.79	2.80	27.39	20.83	2.90	29.48	22.12	3.01	30.73	22.90	3.09	33.46	25.38	3.20	35.27	27.03	3.27
95	23.82	18.57	2.81	25.37	19.71	2.90	26.91	20.84	2.99	28.84	22.26	3.10	30.00	23.11	3.17	32.73	25.39	3.31	34.54	26.91	3.40
100	23.20	18.08	2.85	24.78	19.27	2.94	26.37	20.46	3.03	28.35	21.94	3.15	29.53	22.83	3.22	32.16	24.99	3.36	33.91	26.42	3.45
105	22.58	17.59	2.89	24.20	18.84	2.99	25.82	20.08	3.08	27.85	21.63	3.20	29.06	22.56	3.27	31.60	24.58	3.41	33.29	25.94	3.50
110	21.96	17.11	2.93	23.62	18.40	3.03	25.28	19.69	3.12	27.35	21.31	3.24	28.60	22.28	3.31	31.03	24.18	3.45	32.66	25.45	3.55
115	21.17	16.50	2.97	22.78	17.75	3.06	24.39	19.01	3.16	26.39	20.59	3.28	27.60	21.53	3.35	29.98	23.37	3.49	31.56	24.59	3.59
118	20.70	16.13	2.99	22.28	17.37	3.08	23.85	18.60	3.18	25.82	20.15	3.30	27.00	21.08	3.37	29.34	22.88	3.52	30.90	24.08	3.62

DB: Dry Bulb Temperature (°F) WB: Wet Bulb Temperature (°F) TC: Total Capacity (kBtu/h)
SHC: Sensible Capacity (kBtu/h) PI: Power Input (kW) (includes compressor, indoor fan motor and outdoor fan motor)

1. All capacities are net, evaporator fan motor heat is deducted.
2. Cooling range with the Low Ambient Baffle Kit (sold separately) is 0°F to +122°F.
3. Grey shading indicates reference data. When operating the unit at this temperature, these values

can be different by discontinuous operation.

4. Direct interpolation is permissible. Do not extrapolate.

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).

PERFORMANCE DATA

Heating Capacity

LA090HYV3, LA120HYV3

Table 21: LAN090HYV3/LAU090HYV3 Heating Capacities.

Outdoor Air Temp.		Indoor Air Temperature (°F DB)													
°F DB	°F WB	60		64		68		70		72		75		86	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
-12	-13	5.08	0.43	4.93	0.44	4.88	0.44	4.83	0.42	4.79	0.42	4.69	0.43	4.58	0.43
-3	-4	5.61	0.47	5.44	0.47	5.39	0.47	5.33	0.46	5.29	0.46	5.19	0.46	5.06	0.46
0	-1	6.11	0.52	5.92	0.51	5.86	0.51	5.81	0.51	5.76	0.51	5.64	0.50	5.51	0.50
1	0	6.19	0.53	6.00	0.52	5.94	0.52	5.88	0.51	5.83	0.51	5.72	0.51	5.58	0.51
6	5	6.46	0.54	6.27	0.54	6.20	0.54	6.14	0.53	6.10	0.53	5.97	0.53	5.83	0.53
10	9	6.75	0.56	6.54	0.56	6.48	0.56	6.41	0.55	6.36	0.55	6.24	0.54	6.09	0.54
16	14	6.96	0.57	6.75	0.56	6.68	0.56	6.62	0.56	6.56	0.56	6.43	0.55	6.28	0.55
17	15	7.01	0.57	6.80	0.57	6.73	0.57	6.66	0.56	6.61	0.56	6.48	0.56	6.32	0.56
19	17	7.10	0.58	6.89	0.58	6.82	0.58	6.75	0.57	6.70	0.57	6.56	0.57	6.41	0.57
24	23	7.79	0.61	7.55	0.60	7.48	0.60	7.40	0.59	7.35	0.59	7.20	0.59	7.03	0.59
32	30	9.34	0.65	9.06	0.65	8.96	0.65	8.88	0.64	8.81	0.64	8.63	0.64	8.43	0.64
41	38	10.71	0.70	10.39	0.69	10.28	0.69	10.18	0.68	10.10	0.68	9.90	0.68	9.67	0.68
43	40	11.06	0.71	10.72	0.70	10.61	0.70	10.51	0.69	10.43	0.69	10.22	0.69	9.98	0.69
47	43	11.57	0.72	11.22	0.72	11.11	0.72	11.00	0.71	10.92	0.71	10.70	0.70	10.44	0.70
53	50	11.69	0.73	11.34	0.72	11.22	0.72	11.11	0.72	11.03	0.72	10.80	0.71	10.55	0.71
59	53	11.96	0.74	11.59	0.73	11.48	0.73	11.36	0.72	11.28	0.72	11.05	0.72	10.79	0.72
64	57	12.21	0.75	11.84	0.75	11.72	0.75	11.61	0.74	11.52	0.74	11.29	0.73	11.02	0.73
70	61	12.44	0.76	12.07	0.76	11.94	0.76	11.83	0.75	11.73	0.75	11.50	0.74	11.23	0.74
75	65	12.62	0.77	12.23	0.77	12.11	0.77	11.99	0.76	11.90	0.76	11.66	0.75	11.38	0.75

Table 22: LAN120HYV3/LAU120HYV3 Heating Capacities.

Outdoor Air Temp.		Indoor Air Temperature (°F DB)													
°F DB	°F WB	60		64		68		70		72		75		86	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
-12	-13	6.28	0.59	6.10	0.60	6.03	0.60	5.97	0.58	5.92	0.58	5.79	0.59	5.67	0.59
-3	-4	6.94	0.65	6.73	0.64	6.66	0.64	6.59	0.63	6.54	0.63	6.41	0.63	6.26	0.63
0	-1	7.55	0.71	7.32	0.70	7.25	0.70	7.18	0.70	7.12	0.70	6.98	0.69	6.81	0.69
1	0	7.65	0.72	7.42	0.71	7.34	0.71	7.27	0.70	7.21	0.70	7.07	0.70	6.90	0.70
6	5	7.99	0.74	7.75	0.74	7.67	0.74	7.59	0.73	7.54	0.73	7.38	0.72	7.21	0.72
10	9	8.34	0.77	8.09	0.76	8.01	0.76	7.93	0.75	7.87	0.75	7.71	0.74	7.53	0.74
16	14	8.61	0.77	8.34	0.77	8.26	0.77	8.18	0.76	8.12	0.76	7.95	0.75	7.76	0.75
17	15	8.66	0.78	8.40	0.77	8.32	0.77	8.23	0.77	8.17	0.77	8.01	0.76	7.82	0.76
19	17	8.78	0.80	8.52	0.79	8.43	0.79	8.35	0.78	8.28	0.78	8.12	0.77	7.92	0.77
24	23	9.63	0.83	9.34	0.82	9.25	0.82	9.15	0.81	9.08	0.81	8.90	0.80	8.69	0.80
32	30	11.55	0.89	11.20	0.89	11.08	0.89	10.97	0.88	10.89	0.88	10.67	0.87	10.42	0.87
41	38	13.25	0.95	12.85	0.94	12.72	0.94	12.59	0.93	12.49	0.93	12.24	0.92	11.95	0.92
43	40	13.67	0.97	13.26	0.96	13.12	0.96	12.99	0.95	12.89	0.95	12.64	0.94	12.34	0.94
47	43	14.31	0.99	13.88	0.98	13.74	0.98	13.60	0.97	13.50	0.97	13.23	0.96	12.91	0.96
53	50	14.45	1.00	14.02	0.99	13.87	0.99	13.74	0.98	13.63	0.98	13.36	0.97	13.04	0.97
59	53	14.78	1.01	14.33	1.00	14.19	1.00	14.05	0.99	13.94	0.99	13.66	0.98	13.34	0.98
64	57	15.10	1.03	14.64	1.02	14.49	1.02	14.35	1.01	14.24	1.01	13.95	1.00	13.62	1.00
70	61	15.38	1.04	14.92	1.03	14.77	1.03	14.62	1.02	14.51	1.02	14.22	1.01	13.88	1.01
75	65	15.60	1.06	15.13	1.05	14.97	1.05	14.82	1.04	14.71	1.04	14.42	1.03	14.07	1.03

DB: Dry Bulb Temperature (°F) WB: Wet Bulb Temperature (°F) TC: Total Capacity (kBtu/h)

PI: Power Input (kW) (includes compressor, indoor fan motor and outdoor fan motor)

1. All capacities are net, evaporator fan motor heat is deducted.

2. Direct interpolation is permissible. Do not extrapolate.

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 60°F wet bulb (WB), and outdoor ambient conditions of 47°F dry bulb (DB) and 43°F wet bulb (WB).

PERFORMANCE DATA

Heating Capacity

LA150HYV3, LA180HYV3

Table 23: LAN150HYV3/LAU150HYV3 Heating Capacities.

Outdoor Air Temp.		Indoor Air Temperature (°F DB)													
°F DB	°F WB	60		64		68		70		72		75		86	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
-12	-13	8.31	0.69	8.07	0.69	7.98	0.69	7.91	0.67	7.84	0.67	7.67	0.68	7.50	0.68
-3	-4	9.18	0.75	8.90	0.74	8.81	0.74	8.73	0.74	8.66	0.74	8.49	0.73	8.28	0.73
0	-1	10.00	0.82	9.69	0.82	9.59	0.82	9.50	0.81	9.43	0.81	9.24	0.80	9.02	0.80
1	0	10.12	0.83	9.82	0.82	9.72	0.82	9.62	0.82	9.55	0.82	9.35	0.81	9.13	0.81
6	5	10.58	0.86	10.26	0.85	10.15	0.85	10.05	0.84	9.97	0.84	9.77	0.84	9.54	0.84
10	9	11.04	0.89	10.71	0.88	10.60	0.88	10.49	0.87	10.41	0.87	10.20	0.86	9.96	0.86
16	14	11.39	0.90	11.04	0.89	10.93	0.89	10.82	0.88	10.74	0.88	10.53	0.87	10.28	0.87
17	15	11.47	0.91	11.12	0.90	11.01	0.90	10.90	0.89	10.81	0.89	10.60	0.88	10.35	0.88
19	17	11.62	0.93	11.27	0.92	11.16	0.92	11.05	0.91	10.96	0.91	10.74	0.90	10.49	0.90
24	23	12.75	0.96	12.36	0.95	12.24	0.95	12.12	0.94	12.02	0.94	11.78	0.93	11.50	0.93
32	30	15.28	1.04	14.82	1.03	14.67	1.03	14.52	1.02	14.41	1.02	14.12	1.01	13.79	1.01
41	38	17.53	1.10	17.00	1.09	16.83	1.09	16.66	1.08	16.54	1.08	16.20	1.07	15.82	1.07
43	40	18.10	1.12	17.55	1.11	17.37	1.11	17.20	1.10	17.07	1.10	16.72	1.09	16.33	1.09
47	43	18.94	1.15	18.37	1.14	18.18	1.14	18.00	1.13	17.86	1.13	17.50	1.11	17.09	1.11
53	50	19.13	1.16	18.55	1.15	18.36	1.15	18.18	1.14	18.04	1.14	17.68	1.12	17.26	1.12
59	53	19.57	1.17	18.97	1.16	18.78	1.16	18.59	1.15	18.45	1.15	18.08	1.14	17.65	1.14
64	57	19.98	1.19	19.38	1.18	19.18	1.18	18.99	1.17	18.84	1.17	18.47	1.16	18.03	1.16
70	61	20.36	1.21	19.74	1.20	19.54	1.20	19.35	1.19	19.20	1.19	18.82	1.18	18.37	1.18
75	65	20.65	1.23	20.02	1.22	19.82	1.22	19.62	1.20	19.47	1.20	19.08	1.19	18.63	1.19

Table 24: LAN180HYV3/LAU180HYV3 Heating Capacities.

Outdoor Air Temp.		Indoor Air Temperature (°F DB)													
°F DB	°F WB	60		64		68		70		72		75		86	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
-12	-13	9.98	0.94	9.68	0.95	9.58	0.95	9.49	0.92	9.41	0.92	9.20	0.93	9.00	0.93
-3	-4	11.02	1.03	10.68	1.02	10.58	1.02	10.47	1.01	10.39	1.01	10.18	1.00	9.94	1.00
0	-1	11.99	1.13	11.63	1.12	11.51	1.12	11.40	1.11	11.31	1.11	11.08	1.10	10.82	1.10
1	0	12.15	1.14	11.78	1.13	11.66	1.13	11.54	1.12	11.46	1.12	11.23	1.11	10.96	1.11
6	5	12.69	1.18	12.31	1.17	12.18	1.17	12.06	1.16	11.97	1.16	11.73	1.15	11.45	1.15
10	9	13.25	1.22	12.85	1.21	12.72	1.21	12.59	1.20	12.50	1.20	12.24	1.18	11.95	1.18
16	14	13.67	1.23	13.25	1.22	13.12	1.22	12.99	1.21	12.89	1.21	12.63	1.20	12.33	1.20
17	15	13.76	1.24	13.34	1.23	13.21	1.23	13.08	1.22	12.98	1.22	12.72	1.21	12.41	1.21
19	17	13.95	1.27	13.52	1.26	13.39	1.26	13.25	1.24	13.15	1.24	12.89	1.23	12.58	1.23
24	23	15.30	1.32	14.83	1.30	14.68	1.30	14.54	1.29	14.43	1.29	14.14	1.28	13.80	1.28
32	30	18.34	1.42	17.78	1.41	17.60	1.41	17.43	1.39	17.29	1.39	16.95	1.38	16.54	1.38
41	38	21.04	1.52	20.40	1.50	20.20	1.50	20.00	1.49	19.84	1.49	19.44	1.47	18.98	1.47
43	40	21.72	1.54	21.06	1.52	20.84	1.52	20.64	1.51	20.48	1.51	20.07	1.49	19.59	1.49
47	43	22.73	1.57	22.04	1.56	21.82	1.56	21.60	1.54	21.43	1.54	21.00	1.53	20.51	1.53
53	50	22.96	1.59	22.26	1.57	22.03	1.57	21.82	1.56	21.65	1.56	21.21	1.54	20.71	1.54
59	53	23.48	1.61	22.77	1.59	22.54	1.59	22.31	1.57	22.14	1.57	21.70	1.56	21.18	1.56
64	57	23.98	1.64	23.25	1.62	23.02	1.62	22.79	1.60	22.61	1.60	22.16	1.59	21.63	1.59
70	61	24.43	1.66	23.69	1.64	23.45	1.64	23.22	1.63	23.04	1.63	22.58	1.61	22.04	1.61
75	65	24.77	1.68	24.02	1.67	23.78	1.67	23.54	1.65	23.36	1.65	22.89	1.63	22.35	1.63

DB: Dry Bulb Temperature (°F) WB: Wet Bulb Temperature (°F) TC: Total Capacity (kBtu/h)
PI: Power Input (kW) (includes compressor, indoor fan motor and outdoor fan motor)
1. All capacities are net, evaporator fan motor heat is deducted.
2. Direct interpolation is permissible. Do not extrapolate.

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 60°F wet bulb (WB), and outdoor ambient conditions of 47°F dry bulb (DB) and 43°F wet bulb (WB).

PERFORMANCE DATA

Heating Capacity

LA240HYV3

Table 25: LAN240HYV3/LAU240HYV3 Heating Capacities.

Outdoor Air Temp.		Indoor Air Temperature (°F DB)													
°F DB	°F WB	60		64		68		70		72		75		86	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
-12	-13	12.01	1.27	11.65	1.28	11.53	1.28	11.42	1.24	11.33	1.24	11.08	1.26	10.83	1.26
-3	-4	13.26	1.39	12.86	1.37	12.73	1.37	12.60	1.36	12.51	1.36	12.26	1.35	11.97	1.35
0	-1	14.44	1.52	14.00	1.51	13.86	1.51	13.72	1.49	13.62	1.49	13.34	1.48	13.03	1.48
1	0	14.62	1.54	14.18	1.52	14.03	1.52	13.90	1.51	13.79	1.51	13.51	1.49	13.19	1.49
6	5	15.28	1.59	14.81	1.58	14.66	1.58	14.52	1.56	14.41	1.56	14.12	1.55	13.78	1.55
10	9	15.95	1.64	15.47	1.63	15.31	1.63	15.16	1.61	15.04	1.61	14.74	1.59	14.39	1.59
16	14	16.45	1.66	15.95	1.64	15.79	1.64	15.64	1.63	15.52	1.63	15.20	1.61	14.84	1.61
17	15	16.56	1.68	16.06	1.66	15.90	1.66	15.74	1.64	15.62	1.64	15.31	1.63	14.94	1.63
19	17	16.79	1.71	16.28	1.69	16.11	1.69	15.95	1.68	15.83	1.68	15.51	1.66	15.15	1.66
24	23	18.41	1.77	17.86	1.76	17.68	1.76	17.50	1.74	17.37	1.74	17.02	1.72	16.61	1.72
32	30	22.07	1.92	21.40	1.90	21.19	1.90	20.98	1.88	20.82	1.88	20.40	1.86	19.91	1.86
41	38	25.33	2.04	24.56	2.02	24.31	2.02	24.07	2.00	23.88	2.00	23.40	1.98	22.85	1.98
43	40	26.14	2.07	25.35	2.05	25.09	2.05	24.84	2.03	24.65	2.03	24.16	2.01	23.58	2.01
47	43	27.36	2.12	26.53	2.10	26.26	2.10	26.00	2.08	25.80	2.08	25.28	2.06	24.68	2.06
53	50	27.63	2.14	26.79	2.12	26.52	2.12	26.26	2.10	26.06	2.10	25.54	2.08	24.93	2.08
59	53	28.26	2.16	27.40	2.14	27.13	2.14	26.86	2.12	26.65	2.12	26.12	2.10	25.50	2.10
64	57	28.86	2.21	27.99	2.18	27.70	2.18	27.43	2.16	27.22	2.16	26.67	2.14	26.04	2.14
70	61	29.41	2.24	28.52	2.22	28.23	2.22	27.95	2.19	27.74	2.19	27.18	2.17	26.53	2.17
75	65	29.82	2.27	28.92	2.25	28.62	2.25	28.34	2.23	28.12	2.23	27.56	2.20	26.90	2.20

DB: Dry Bulb Temperature (°F) WB: Wet Bulb Temperature (°F) TC: Total Capacity (kBtu/h)
PI: Power Input (kW) (includes compressor, indoor fan motor and outdoor fan motor)
1. All capacities are net, evaporator fan motor heat is deducted.
2. Direct interpolation is permissible. Do not extrapolate.

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 60°F wet bulb (WB), and outdoor ambient conditions of 47°F dry bulb (DB) and 43°F wet bulb (WB).

PERFORMANCE DATA

Maximum Heating Capacity

LA090HYV3, LA120HYV3

Table 26: LAN090HYV3/LAU090HYV3 Maximum Heating Capacities.

Outdoor Air Temp.		Indoor Air Temperature (°F DB)													
°F DB	°F WB	60		64		68		70		72		75		86	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
-12	-13	7.94	0.91	7.97	0.91	8.00	0.92	8.03	0.92	7.91	0.93	7.77	0.93	7.23	0.93
-3	-4	9.81	0.95	9.77	0.95	9.72	0.96	9.70	0.96	9.62	0.97	9.52	0.98	9.12	1.04
0	-1	10.35	0.96	10.28	0.97	10.22	0.97	10.22	0.98	10.10	0.99	9.98	1.01	9.54	1.07
1	0	10.59	0.97	10.52	0.98	10.45	0.99	10.47	0.99	10.32	1.00	10.19	1.01	9.71	1.04
6	5	11.42	1.00	11.33	1.01	11.23	1.02	11.00	1.03	11.06	1.02	10.88	1.01	10.22	0.97
10	9	11.93	1.00	11.82	1.01	11.72	1.03	11.66	1.03	11.49	1.02	11.25	1.01	10.37	0.96
16	14	12.09	1.01	11.97	1.02	11.85	1.03	11.80	1.04	11.56	1.03	11.23	1.01	10.01	0.94
17	15	12.19	1.02	12.07	1.03	11.95	1.04	11.89	1.05	11.64	1.03	11.30	1.00	10.06	0.90
19	17	12.25	1.02	12.12	1.03	11.99	1.04	11.94	1.04	11.65	1.02	11.25	0.99	9.80	0.89
24	23	13.81	1.03	13.67	1.03	13.54	1.03	13.48	1.03	13.09	1.01	12.56	0.98	10.60	0.85
32	30	16.48	1.00	16.34	1.00	16.20	1.00	16.14	1.00	15.63	0.97	14.92	0.93	12.35	0.78
41	38	19.01	0.93	18.86	0.95	18.72	0.97	18.65	0.97	18.05	0.93	17.24	0.88	14.25	0.68
43	40	19.81	0.90	19.66	0.91	19.51	0.93	19.52	0.94	18.82	0.89	17.96	0.84	14.81	0.63
47	43	20.88	0.86	20.73	0.89	20.58	0.92	20.47	0.93	19.84	0.89	18.92	0.82	15.54	0.60
53	50	21.35	0.88	21.18	0.90	21.02	0.93	20.94	0.94	20.21	0.89	19.20	0.82	15.51	0.56
59	53	21.86	0.86	21.84	0.89	21.83	0.93	21.83	0.94	21.03	0.89	19.93	0.82	15.92	0.56
64	57	22.08	0.84	21.88	0.86	21.68	0.87	21.57	0.88	20.83	0.83	19.78	0.77	15.94	0.55
70	61	22.13	0.81	21.90	0.81	21.66	0.81	21.56	0.81	20.80	0.77	19.77	0.71	15.97	0.51
75	65	22.20	0.74	21.93	0.76	21.66	0.78	21.54	0.79	20.77	0.75	19.71	0.69	15.85	0.48

Table 27: LAN120HYV3/LAU120HYV3 Maximum Heating Capacities.

Outdoor Air Temp.		Indoor Air Temperature (°F DB)													
°F DB	°F WB	60		64		68		70		72		75		86	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
-12	-13	9.55	1.21	9.59	1.22	9.62	1.23	9.64	1.24	9.51	1.24	9.33	1.24	8.67	1.25
-3	-4	11.86	1.27	11.81	1.27	11.75	1.28	11.72	1.28	11.63	1.29	11.49	1.32	11.01	1.40
0	-1	12.73	1.28	12.65	1.29	12.57	1.30	12.53	1.31	12.42	1.32	12.27	1.35	11.73	1.43
1	0	12.97	1.30	12.88	1.31	12.80	1.32	12.76	1.32	12.64	1.33	12.47	1.35	11.88	1.40
6	5	13.85	1.33	13.73	1.35	13.62	1.36	13.60	1.37	13.40	1.36	13.18	1.35	12.37	1.30
10	9	14.41	1.34	14.28	1.36	14.15	1.37	14.14	1.38	13.87	1.37	13.57	1.35	12.49	1.29
16	14	14.95	1.35	14.81	1.36	14.66	1.38	14.59	1.39	14.29	1.37	13.88	1.35	12.37	1.26
17	15	15.07	1.36	14.92	1.38	14.77	1.40	14.70	1.40	14.39	1.38	13.97	1.34	12.43	1.20
19	17	15.14	1.36	14.98	1.38	14.83	1.39	14.76	1.40	14.40	1.37	13.91	1.33	12.12	1.18
24	23	16.39	1.37	16.23	1.38	16.06	1.38	15.99	1.38	15.50	1.35	14.85	1.30	12.43	1.14
32	30	18.61	1.33	18.44	1.33	18.27	1.34	18.19	1.34	17.55	1.30	16.68	1.25	13.50	1.05
41	38	21.46	1.25	21.28	1.27	21.10	1.29	21.02	1.30	20.28	1.25	19.27	1.18	15.58	0.91
43	40	21.84	1.20	21.65	1.22	21.47	1.24	21.42	1.25	20.61	1.20	19.55	1.12	15.66	0.85
47	43	22.68	1.16	22.50	1.19	22.31	1.23	22.18	1.25	21.40	1.18	20.26	1.10	16.09	0.80
53	50	23.26	1.18	23.06	1.21	22.86	1.24	22.76	1.26	21.86	1.19	20.61	1.09	16.04	0.74
59	53	23.89	1.15	23.88	1.20	23.87	1.24	23.86	1.26	22.87	1.19	21.51	1.09	16.55	0.75
64	57	23.76	1.13	23.52	1.15	23.27	1.16	23.13	1.17	22.21	1.11	20.92	1.03	16.17	0.73
70	61	23.82	1.08	23.54	1.08	23.25	1.08	23.12	1.08	22.18	1.03	20.90	0.95	16.21	0.68
75	65	23.92	1.00	23.58	1.02	23.24	1.05	23.09	1.06	22.14	1.00	20.83	0.92	16.06	0.64

DB: Dry Bulb Temperature (°F) WB: Wet Bulb Temperature (°F) TC: Total Capacity (kBtu/h)
 PI: Power Input (kW) (includes compressor, indoor fan motor and outdoor fan motor)
 1. All capacities are net, evaporator fan motor heat is deducted.
 2. Direct interpolation is permissible. Do not extrapolate.

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 60°F wet bulb (WB), and outdoor ambient conditions of 47°F dry bulb (DB) and 43°F wet bulb (WB).

PERFORMANCE DATA

Maximum Heating Capacity LA150HYV3, LA180HYV3

Table 28: LAN150HYV3/LAU150HYV3 Maximum Heating Capacities.

Outdoor Air Temp.		Indoor Air Temperature (°F DB)													
°F DB	°F WB	60		64		68		70		72		75		86	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
-12	-13	14.54	1.94	14.59	1.96	14.64	1.97	14.66	1.98	14.48	1.98	14.25	1.99	13.37	2.00
-3	-4	17.06	2.03	16.98	2.04	16.91	2.04	16.88	2.04	16.75	2.07	16.57	2.10	15.93	2.22
0	-1	17.84	2.05	17.74	2.06	17.63	2.08	17.59	2.08	17.44	2.11	17.24	2.14	16.52	2.27
1	0	18.17	2.07	18.05	2.09	17.94	2.10	17.88	2.11	17.73	2.12	17.51	2.14	16.72	2.22
6	5	19.33	2.12	19.18	2.15	19.02	2.17	18.95	2.18	18.74	2.17	18.44	2.15	17.37	2.07
10	9	20.25	2.13	20.08	2.16	19.90	2.19	19.82	2.20	19.53	2.18	19.14	2.15	17.71	2.06
16	14	21.33	2.15	21.13	2.17	20.94	2.20	20.85	2.21	20.45	2.18	19.91	2.14	17.92	2.01
17	15	21.49	2.16	21.29	2.19	21.09	2.22	21.00	2.23	20.59	2.19	20.03	2.13	17.99	1.93
19	17	21.94	2.17	21.73	2.19	21.53	2.21	21.43	2.22	20.96	2.18	20.31	2.12	17.94	1.90
24	23	23.05	2.18	22.84	2.19	22.62	2.19	22.52	2.20	21.88	2.15	21.01	2.08	17.81	1.84
32	30	24.19	2.12	23.96	2.13	23.74	2.13	23.63	2.13	22.79	2.07	21.64	1.99	17.42	1.69
41	38	25.26	2.00	25.02	2.03	24.79	2.06	24.68	2.08	23.70	2.00	22.37	1.89	17.48	1.49
43	40	25.49	1.92	25.25	1.95	25.01	1.99	24.90	2.00	23.87	1.92	22.47	1.81	17.32	1.40
47	43	25.80	1.86	25.56	1.91	25.31	1.97	25.20	1.99	24.10	1.90	22.59	1.78	17.07	1.32
53	50	26.39	1.89	26.12	1.94	25.86	1.99	25.74	2.01	24.53	1.91	22.88	1.77	16.83	1.24
59	53	26.68	1.86	26.66	1.92	26.65	1.98	26.64	2.01	25.32	1.90	23.53	1.76	16.97	1.24
64	57	26.87	1.82	26.55	1.84	26.22	1.87	26.07	1.88	24.82	1.79	23.11	1.67	16.83	1.22
70	61	26.95	1.75	26.57	1.75	26.19	1.74	26.01	1.74	24.77	1.66	23.08	1.55	16.88	1.14
75	65	26.89	1.62	26.45	1.66	26.00	1.69	25.80	1.71	24.54	1.63	22.81	1.51	16.49	1.08

Table 29: LAN180HYV3/LAU180HYV3 Maximum Heating Capacities.

Outdoor Air Temp.		Indoor Air Temperature (°F DB)													
°F DB	°F WB	60		64		68		70		72		75		86	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
-12	-13	15.04	2.29	15.11	2.31	15.17	2.33	15.68	2.32	15.03	2.35	14.65	2.35	13.50	2.37
-3	-4	18.96	2.40	18.85	2.40	18.76	2.41	18.71	2.41	18.58	2.44	18.29	2.48	17.42	2.65
0	-1	20.03	2.42	19.87	2.44	19.75	2.45	19.68	2.46	19.53	2.49	19.20	2.54	18.22	2.71
1	0	20.47	2.43	20.30	2.45	20.16	2.48	20.08	2.49	19.92	2.51	19.56	2.54	18.48	2.65
6	5	22.73	2.51	22.49	2.54	22.30	2.57	21.60	2.59	21.98	2.57	21.47	2.54	19.17	2.44
10	9	23.92	2.53	23.65	2.57	23.43	2.60	23.31	2.62	23.02	2.59	22.35	2.56	19.51	2.43
16	14	25.02	2.56	24.73	2.59	24.49	2.63	24.36	2.64	23.95	2.61	23.04	2.56	20.32	2.37
17	15	25.30	2.55	25.01	2.59	24.76	2.63	24.63	2.65	24.20	2.61	23.23	2.55	20.33	2.33
19	17	25.61	2.57	25.31	2.60	25.06	2.63	24.92	2.64	24.45	2.59	23.37	2.51	20.16	2.22
24	23	26.91	2.63	26.59	2.64	26.33	2.65	26.19	2.65	25.55	2.59	24.12	2.50	19.82	2.17
32	30	28.98	2.65	28.64	2.66	28.36	2.66	28.21	2.67	27.35	2.59	25.43	2.47	19.65	2.05
41	38	31.31	2.57	30.95	2.62	30.65	2.66	30.49	2.69	29.47	2.58	27.17	2.42	20.29	1.83
43	40	31.83	2.57	31.46	2.62	31.16	2.67	30.99	2.69	29.91	2.58	27.48	2.40	20.18	1.77
47	43	32.88	2.50	32.49	2.59	32.18	2.67	32.00	2.71	30.82	2.58	28.17	2.39	20.20	1.67
53	50	33.73	2.55	33.31	2.63	32.97	2.70	32.78	2.74	31.49	2.59	28.58	2.37	19.85	1.55
59	53	34.16	2.50	34.13	2.59	34.10	2.69	34.09	2.73	32.69	2.59	29.53	2.37	20.05	1.56
64	57	34.43	2.44	33.92	2.48	33.50	2.52	33.27	2.54	31.93	2.41	28.91	2.22	19.84	1.52
70	61	34.55	2.34	33.95	2.33	33.46	2.33	33.19	2.33	31.86	2.21	28.88	2.04	19.92	1.41
75	65	34.46	2.13	33.77	2.19	33.20	2.25	32.88	2.28	31.53	2.16	28.49	1.97	19.36	1.31

DB: Dry Bulb Temperature (°F) WB: Wet Bulb Temperature (°F) TC: Total Capacity (kBtu/h)
 PI: Power Input (kW) (includes compressor, indoor fan motor and outdoor fan motor)
 1. All capacities are net, evaporator fan motor heat is deducted.
 2. Direct interpolation is permissible. Do not extrapolate.

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 60°F wet bulb (WB), and outdoor ambient conditions of 47°F dry bulb (DB) and 43°F wet bulb (WB).

PERFORMANCE DATA

Maximum Heating Capacity

LA240HYV3

Table 30: LAN240HYV3/LAU240HYV3 Maximum Heating Capacities.

Outdoor Air Temp.		Indoor Air Temperature (°F DB)													
°F DB	°F WB	60		64		68		70		72		75		86	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
-12	-13	17.02	2.74	17.10	2.77	17.16	2.79	17.74	2.77	17.01	2.81	16.57	2.81	15.27	2.83
-3	-4	21.44	2.87	21.32	2.87	21.22	2.88	21.17	2.88	21.02	2.92	20.69	2.97	19.70	3.17
0	-1	22.66	2.90	22.48	2.92	22.34	2.94	22.26	2.95	22.09	2.98	21.72	3.04	20.62	3.24
1	0	23.16	2.90	22.96	2.93	22.81	2.96	22.71	2.98	22.54	3.00	22.13	3.04	20.90	3.18
6	5	25.71	3.00	25.45	3.04	25.23	3.07	23.70	3.10	23.75	3.07	24.29	3.04	21.68	2.92
10	9	27.05	3.03	26.75	3.07	26.51	3.11	25.54	3.13	26.04	3.10	25.28	3.06	22.07	2.91
16	14	28.30	3.06	27.97	3.10	27.70	3.14	26.72	3.16	27.10	3.12	26.07	3.06	22.98	2.84
17	15	28.62	3.05	28.29	3.10	28.01	3.15	27.03	3.17	27.37	3.12	26.28	3.05	23.00	2.79
19	17	28.97	3.08	28.63	3.11	28.35	3.14	27.36	3.16	27.65	3.10	26.44	3.00	22.80	2.65
24	23	30.44	3.15	30.08	3.16	29.79	3.17	29.07	3.17	28.90	3.10	27.28	2.99	22.42	2.59
32	30	32.78	3.17	32.40	3.18	32.08	3.19	31.36	3.19	30.94	3.10	28.77	2.96	22.23	2.45
41	38	35.41	3.07	35.01	3.13	34.67	3.19	33.65	3.21	33.33	3.09	30.74	2.90	22.95	2.19
43	40	36.00	3.07	35.59	3.13	35.25	3.19	34.50	3.22	33.84	3.08	31.08	2.88	22.83	2.12
47	43	37.19	3.00	36.76	3.09	36.40	3.19	36.20	3.24	34.87	3.09	31.87	2.85	22.86	2.00
53	50	38.16	3.05	37.68	3.14	37.30	3.23	37.08	3.28	35.62	3.10	32.33	2.84	22.46	1.85
59	53	38.64	2.99	38.61	3.10	38.58	3.21	38.56	3.27	36.97	3.09	33.40	2.83	22.68	1.87
64	57	38.95	2.92	38.37	2.97	37.90	3.01	37.64	3.04	36.12	2.88	32.70	2.66	22.45	1.82
70	61	39.08	2.79	38.40	2.79	37.85	2.78	37.54	2.78	36.04	2.64	32.66	2.44	22.54	1.68
75	65	38.98	2.55	38.20	2.62	37.55	2.69	37.19	2.72	35.66	2.58	32.22	2.36	21.90	1.56

DB: Dry Bulb Temperature (°F) WB: Wet Bulb Temperature (°F) TC: Total Capacity (kBtu/h)
PI: Power Input (kW) (includes compressor, indoor fan motor and outdoor fan motor)
1. All capacities are net, evaporator fan motor heat is deducted.
2. Direct interpolation is permissible. Do not extrapolate.

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 60°F wet bulb (WB), and outdoor ambient conditions of 47°F dry bulb (DB) and 43°F wet bulb (WB).

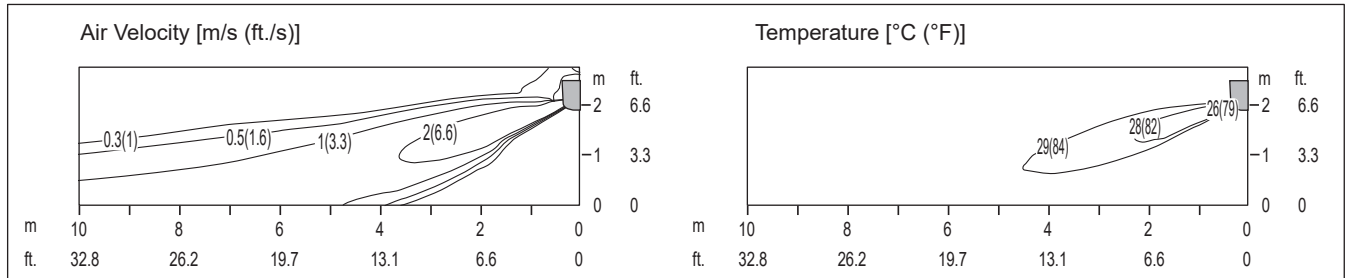


PERFORMANCE DATA

Air Flow and Temperature Distribution Graphs

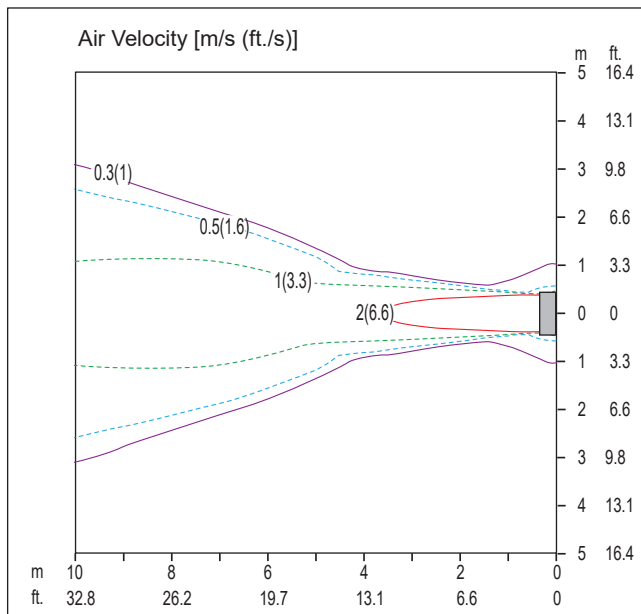
LAN090HYV3

Cooling



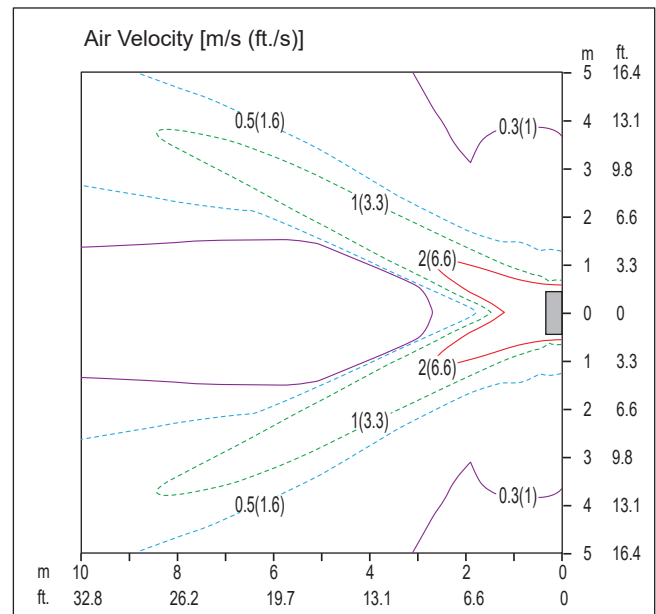
Side View

Discharge Angle : 25° (From the floor ▼)
 Vertical Louver : Center
 Fan Speed : Power



Top View

Discharge Angle : 25° (From the floor ▼)
 Vertical Louver : Center
 Fan Speed : Power
 Air Speed 0.3 m/s (1 ft./s) Range : 19.0 m (62.3 ft.)



Top View

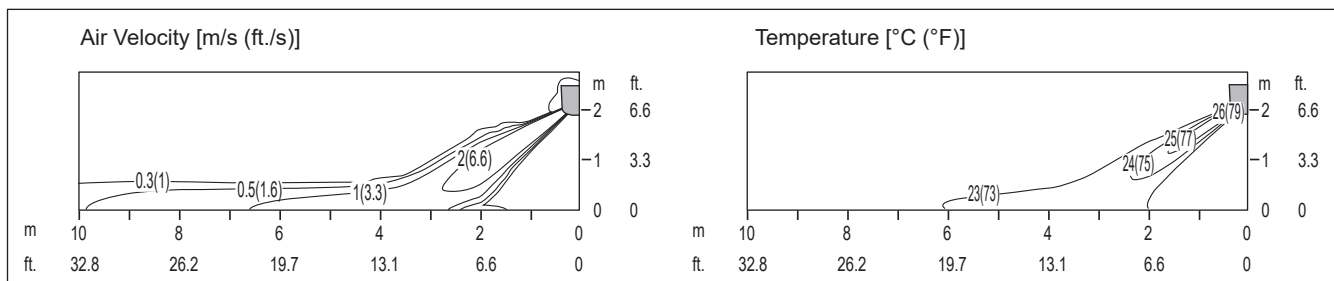
Discharge Angle : 25° (From the floor ▼)
 Vertical Louver : Left & Right
 Fan Speed : Power

PERFORMANCE DATA

Air Flow and Temperature Distribution Graphs

LAN090HYV3, continued.

Heating

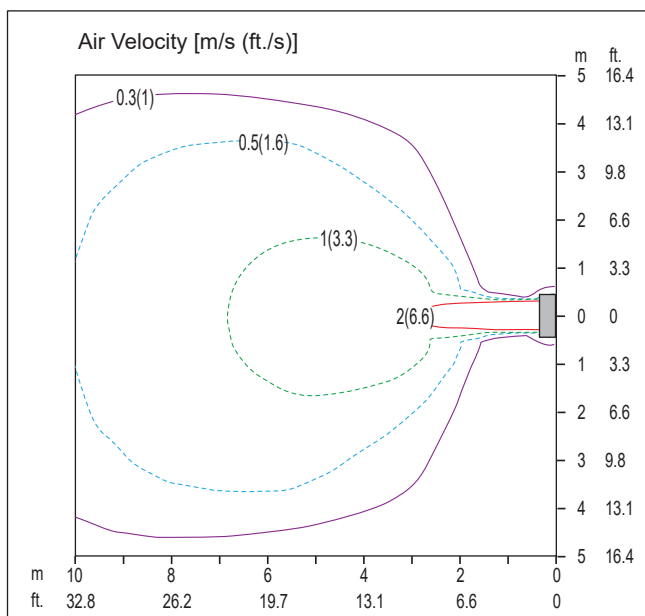


Side View

Discharge Angle : 45° (From the floor ▼)

Vertical Louver : Center

Fan Speed : Power



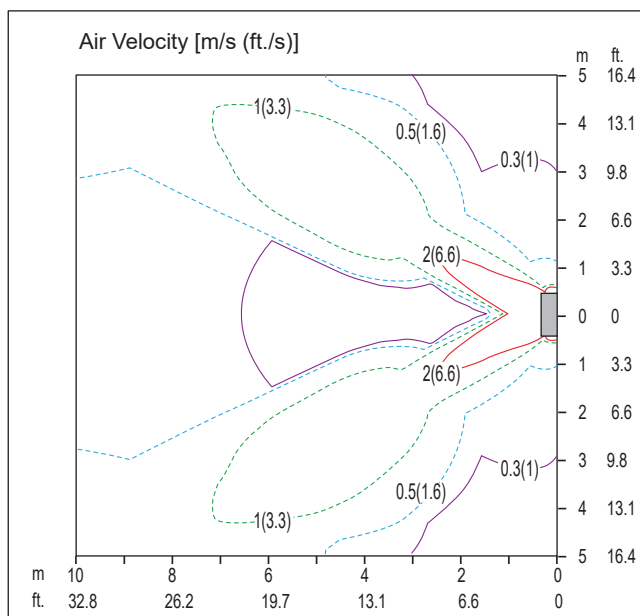
Top View

Discharge Angle : 45° (From the floor ▼)

Vertical Louver : Center

Fan Speed : Power

Air Speed 0.3 m/s (1 ft./s) Range : 11.8 m (38.7 ft.)



Top View

Discharge Angle : 45° (From the floor ▼)

Vertical Louver : Left & Right

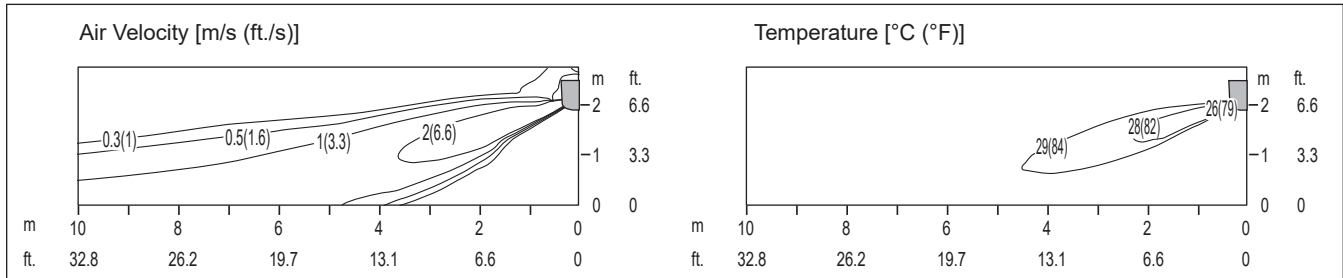
Fan Speed : Power

PERFORMANCE DATA

Air Flow and Temperature Distribution Graphs

LAN120HYV3

Cooling

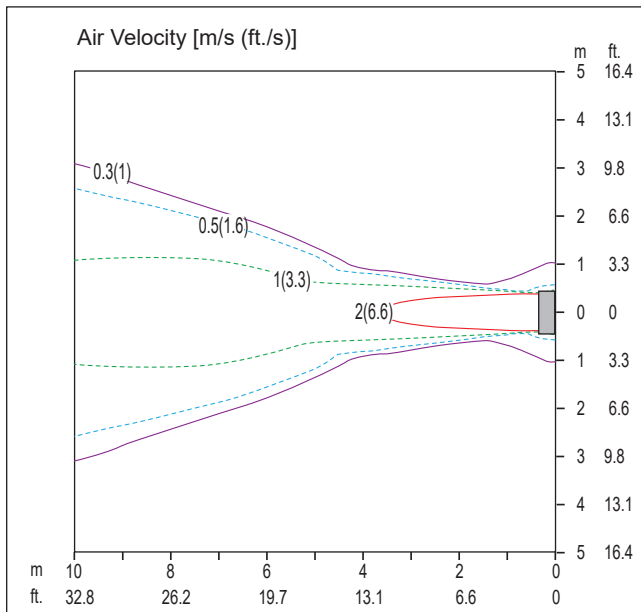


Side View

Discharge Angle : 25° (From the floor ▼)

Vertical Louver : Center

Fan Speed : Power



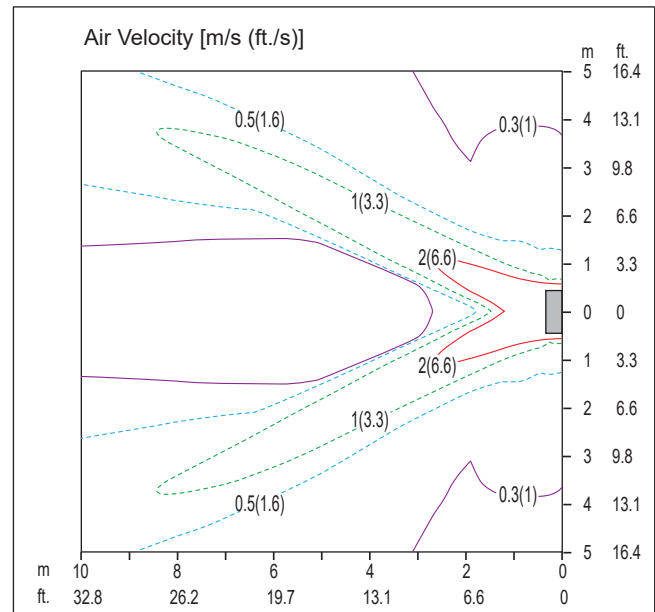
Top View

Discharge Angle : 25° (From the floor ▼)

Vertical Louver : Center

Fan Speed : Power

Air Speed 0.3 m/s (1 ft./s) Range : 19.0 m (62.3 ft.)



Top View

Discharge Angle : 25° (From the floor ▼)

Vertical Louver : Left & Right

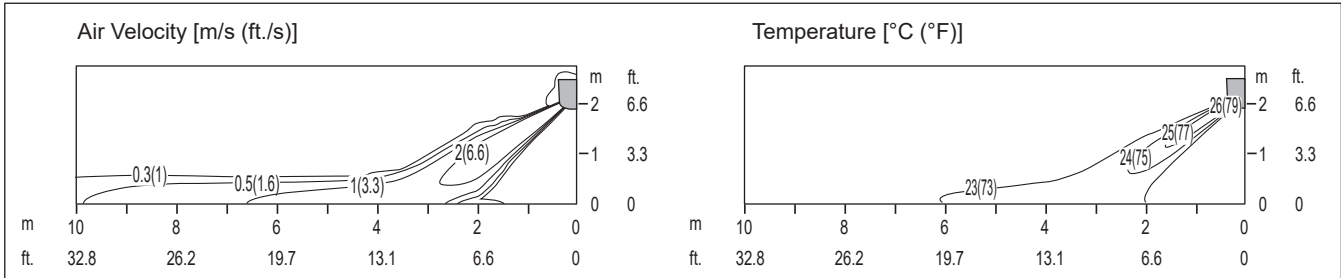
Fan Speed : Power

PERFORMANCE DATA

Air Flow and Temperature Distribution Graphs

LAN120HYV3, continued.

Heating

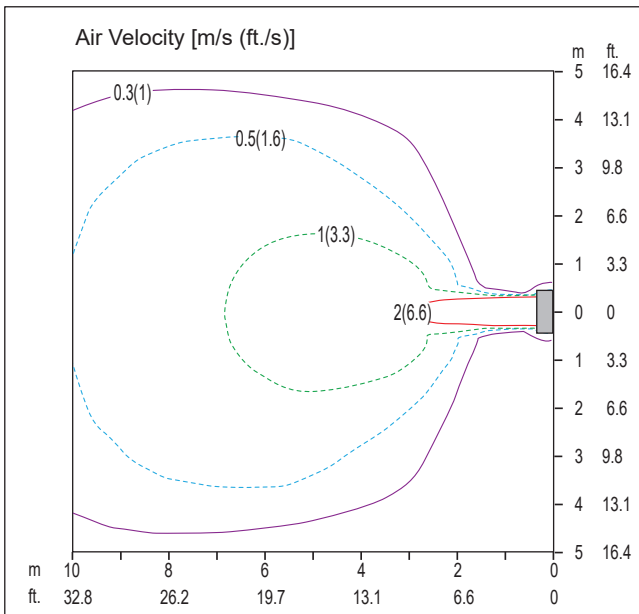


Side View

Discharge Angle : 45° (From the floor ▼)

Vertical Louver : Center

Fan Speed : Power



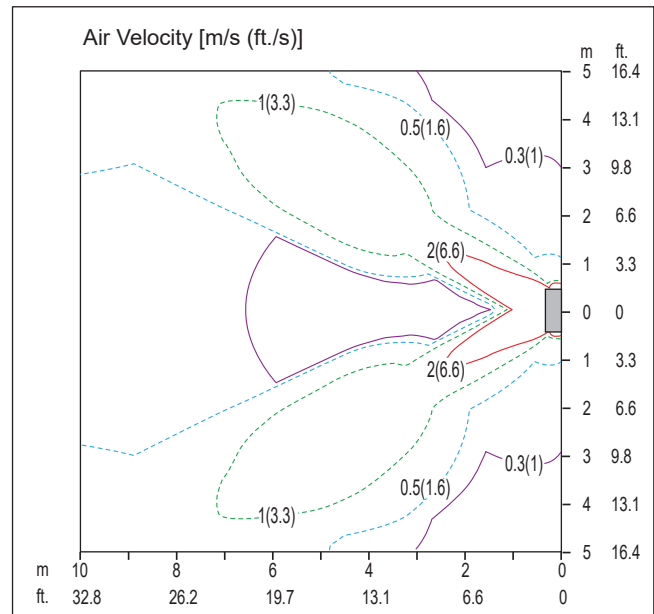
Top View

Discharge Angle : 45° (From the floor ▼)

Vertical Louver : Center

Fan Speed : Power

Air Speed 0.3 m/s (1 ft./s) Range : 11.8 m (38.7 ft.)



Top View

Discharge Angle : 45° (From the floor ▼)

Vertical Louver : Left & Right

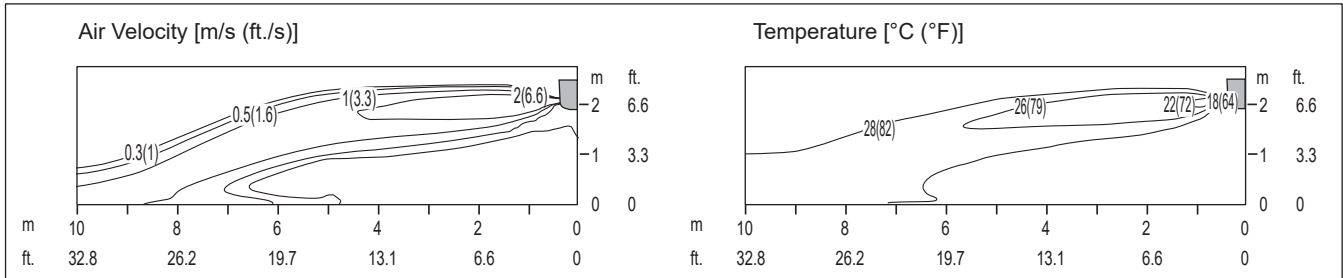
Fan Speed : Power

PERFORMANCE DATA

Air Flow and Temperature Distribution Graphs

LAN150HYV3

Cooling

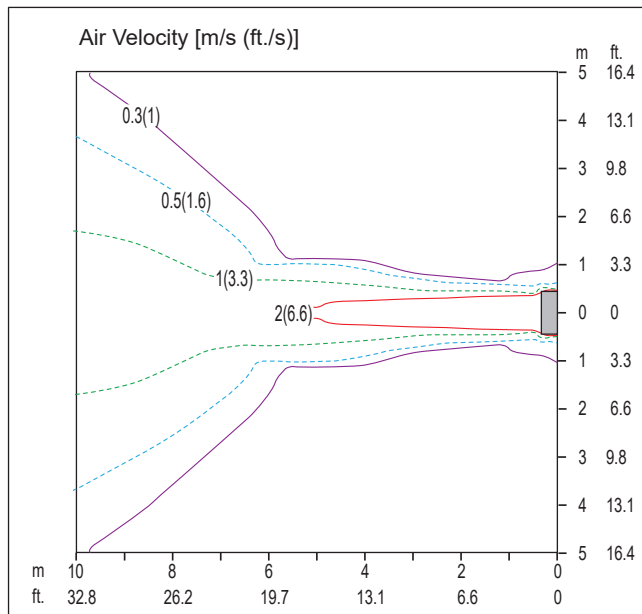


Side View

Discharge Angle : 22° (From the floor ▼)

Vertical Louver : Center

Fan Speed : Power



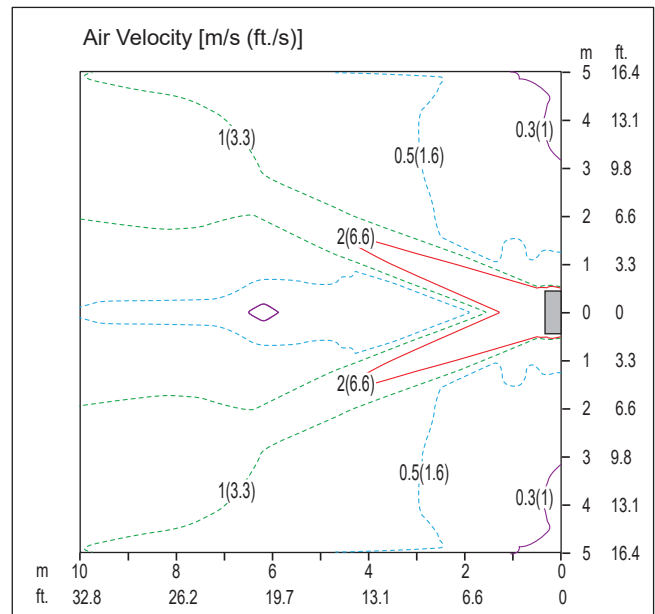
Top View

Discharge Angle : 22° (From the floor ▼)

Vertical Louver : Center

Fan Speed : Power

Air Speed 0.3 m/s (1 ft./s) Range : 20.0 m (65.6 ft.)



Top View

Discharge Angle : 22° (From the floor ▼)

Vertical Louver : Left & Right

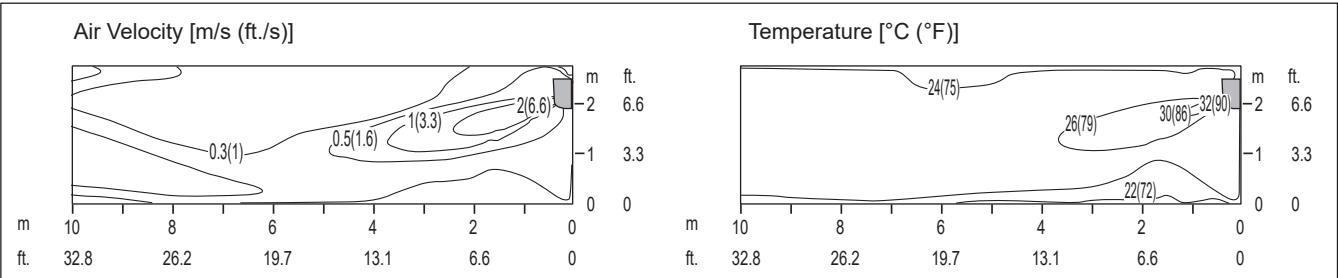
Fan Speed : Power

PERFORMANCE DATA

Air Flow and Temperature Distribution Graphs

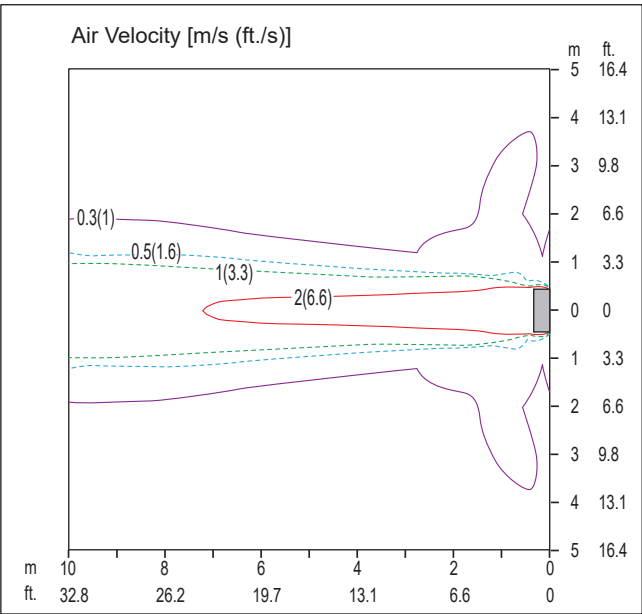
LAN150HYV3, continued.

Heating



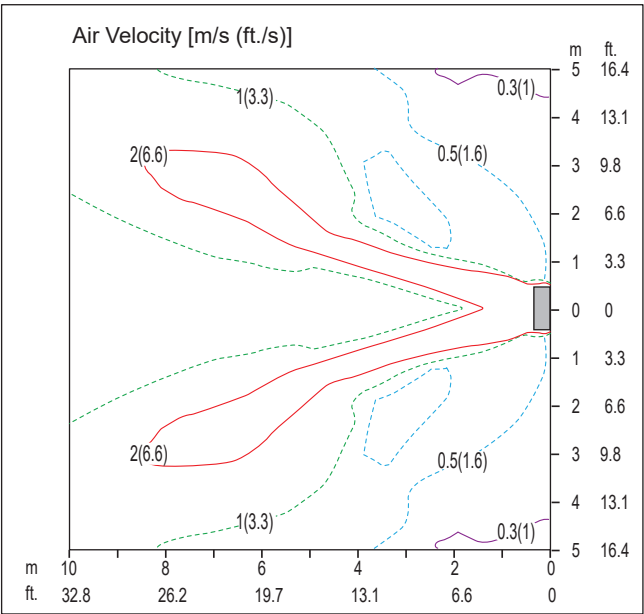
Side View

Discharge Angle : 42° (From the floor ▼)
 Vertical Louver : Center
 Fan Speed : Power



Top View

Discharge Angle : 42° (From the floor ▼)
 Vertical Louver : Center
 Fan Speed : Power
 Air Speed 0.3 m/s (1 ft./s) Range : 20.0 m (65.6 ft.)



Top View

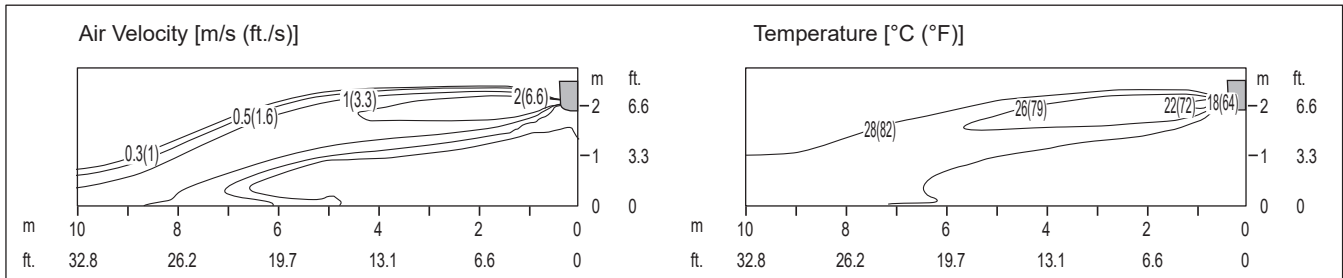
Discharge Angle : 42° (From the floor ▼)
 Vertical Louver : Left & Right
 Fan Speed : Power

PERFORMANCE DATA

Air Flow and Temperature Distribution Graphs

LAN180HYV3

Cooling

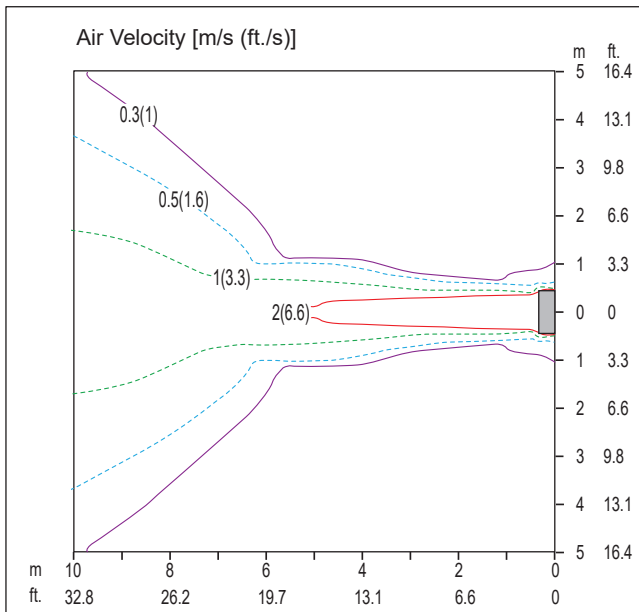


Side View

Discharge Angle : 22° (From the floor ▼)

Vertical Louver : Center

Fan Speed : Power



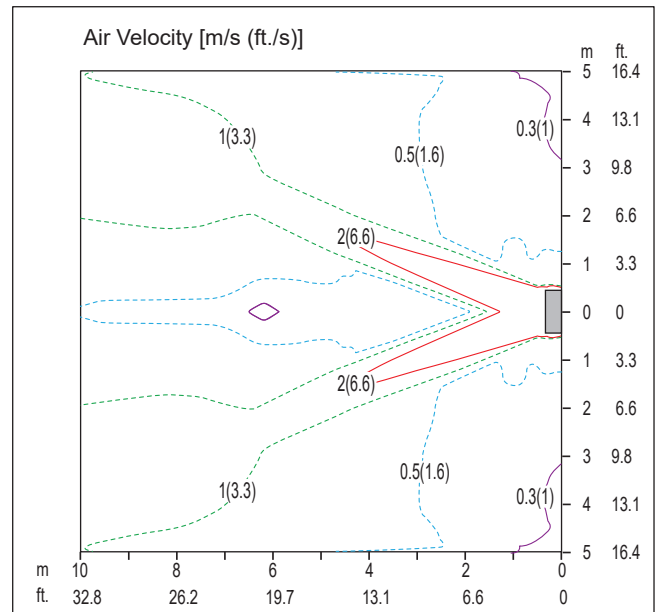
Top View

Discharge Angle : 22° (From the floor ▼)

Vertical Louver : Center

Fan Speed : Power

Air Speed 0.3 m/s (1 ft./s) Range : 20.0 m (65.6 ft.)



Top View

Discharge Angle : 22° (From the floor ▼)

Vertical Louver : Left & Right

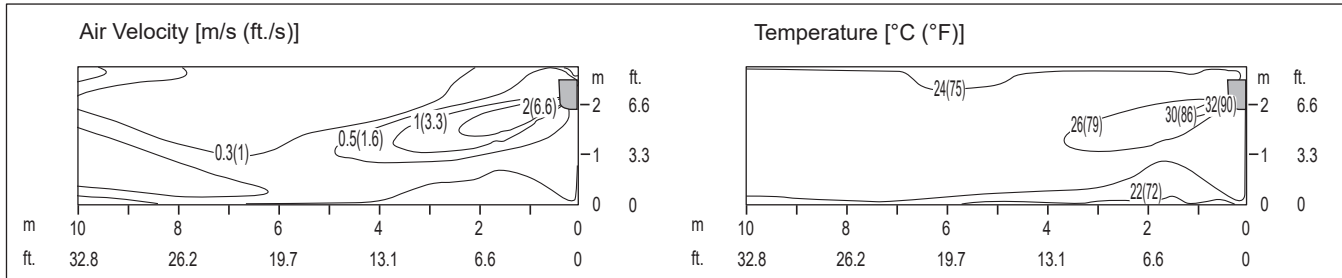
Fan Speed : Power

PERFORMANCE DATA

Air Flow and Temperature Distribution Graphs

LAN180HYV3, continued.

Heating

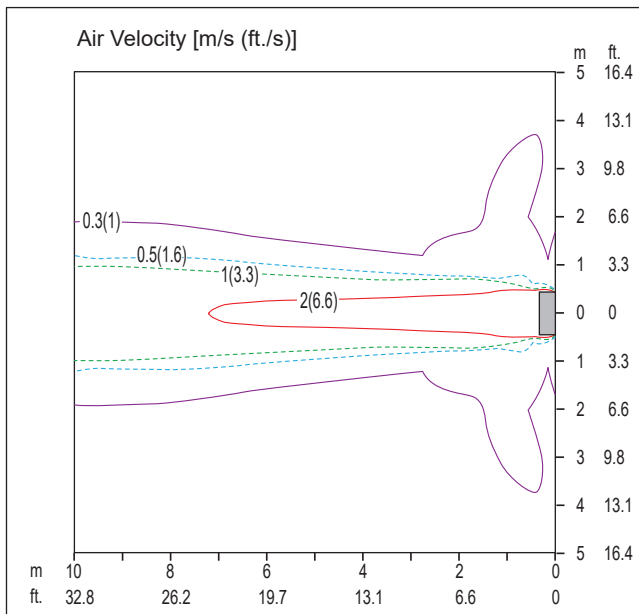


Side View

Discharge Angle : 42° (From the floor ▼)

Vertical Louver : Center

Fan Speed : Power



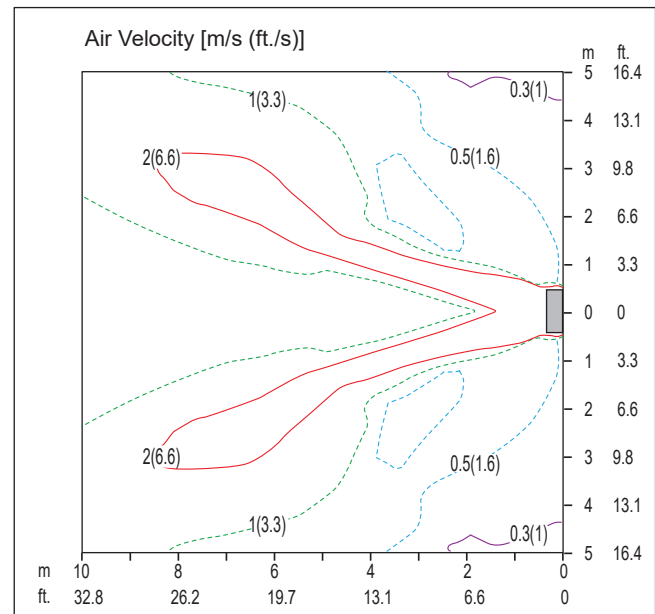
Top View

Discharge Angle : 42° (From the floor ▼)

Vertical Louver : Center

Fan Speed : Power

Air Speed 0.3 m/s (1 ft./s) Range : 20.0 m (65.6 ft.)



Top View

Discharge Angle : 42° (From the floor ▼)

Vertical Louver : Left & Right

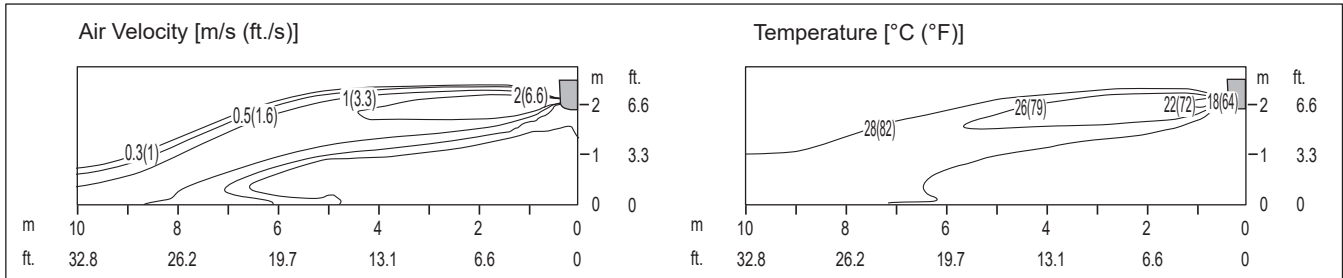
Fan Speed : Power

PERFORMANCE DATA

Air Flow and Temperature Distribution Graphs

LAN240HYV3

Cooling

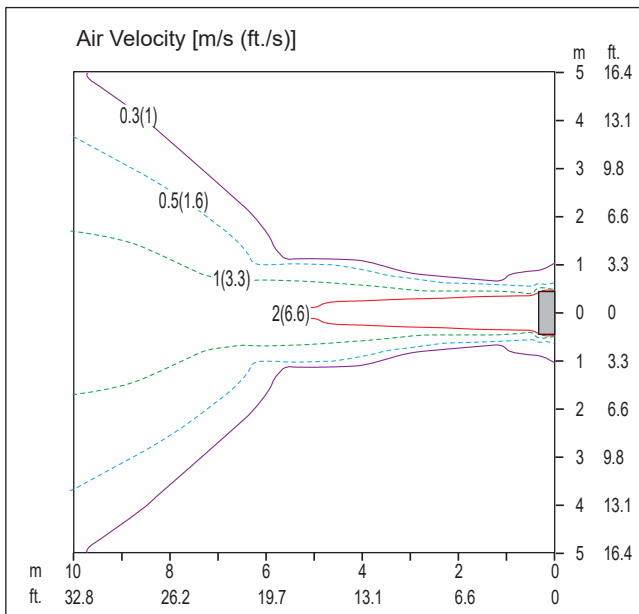


Side View

Discharge Angle : 22° (From the floor ▼)

Vertical Louver : Center

Fan Speed : Power



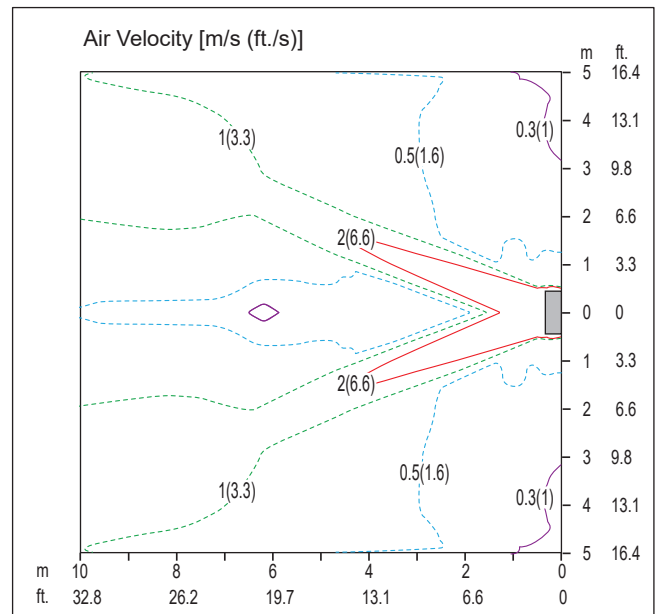
Top View

Discharge Angle : 22° (From the floor ▼)

Vertical Louver : Center

Fan Speed : Power

Air Speed 0.3 m/s (1 ft./s) Range : 20.0 m (65.6 ft.)



Top View

Discharge Angle : 22° (From the floor ▼)

Vertical Louver : Left & Right

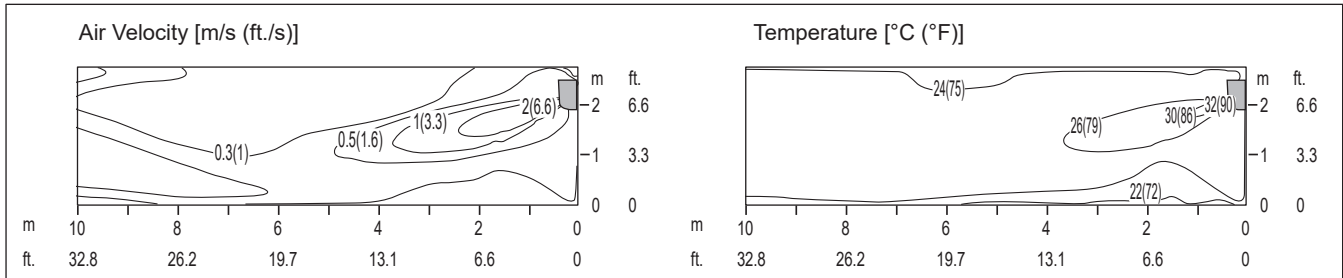
Fan Speed : Power

PERFORMANCE DATA

Air Flow and Temperature Distribution Graphs

LAN240HYV3, continued.

Heating

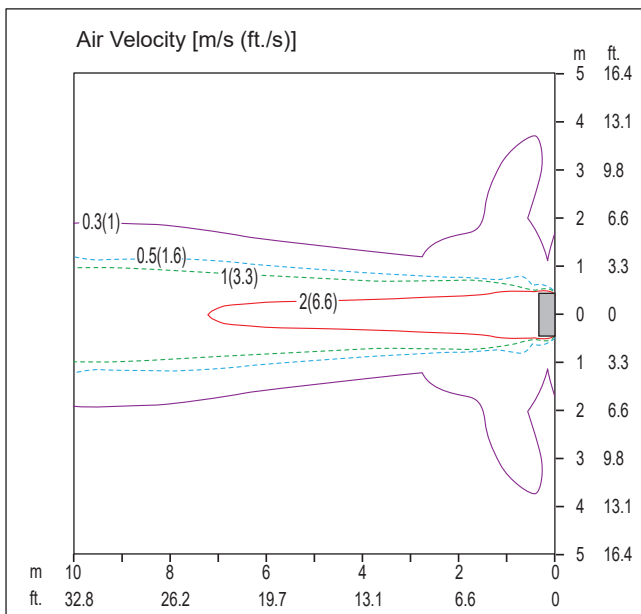


Side View

Discharge Angle : 42° (From the floor ▼)

Vertical Louver : Center

Fan Speed : Power



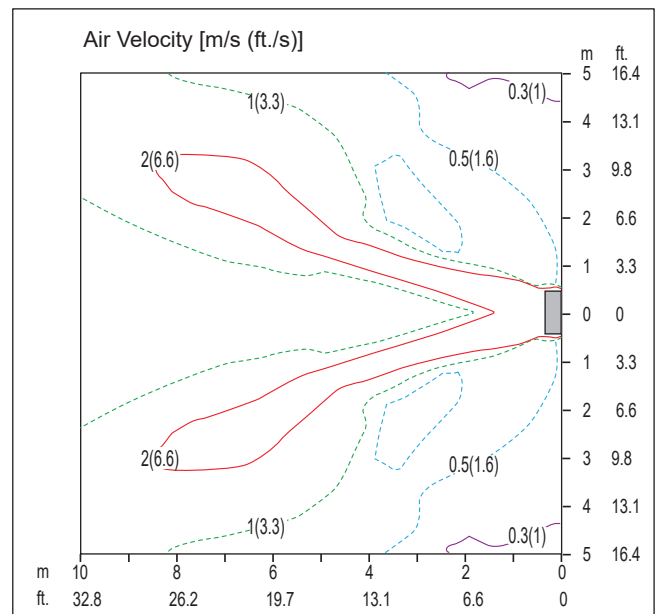
Top View

Discharge Angle : 42° (From the floor ▼)

Vertical Louver : Center

Fan Speed : Power

Air Speed 0.3 m/s (1 ft./s) Range : 20.0 m (65.6 ft.)



Top View

Discharge Angle : 42° (From the floor ▼)

Vertical Louver : Left & Right

Fan Speed : Power

APPLICATION GUIDELINES

Equipment Selection Procedure on page 56

Placement Considerations on page 57

Installing Outdoor Units Indoors on page 60

EQUIPMENT SELECTION PROCEDURE

Cooling/Heating Correction Factors

For Single Zone Art Cool Premier systems, calculate the equivalent length of the liquid line from the outdoor unit to the indoor unit. Also, determine the elevation difference of the indoor unit above or below the outdoor unit. Find corresponding cooling or heating capacity correction factors as shown in the table below. Multiply the correction factors by the cooling or heating capacity obtained from the capacity tables using design conditions. The resultant is the NET cooling or heating capacity.

Table 31: Single Zone Wall Mounted Art Cool Premier Cooling/Heating % Coefficient Factors.

Model		Main Piping Length											
Indoor Unit	Outdoor Unit	Feet	16.4	24.6	32.8	49.2	65.6	82.0	98.4	114.8	131.2	147.6	164.0
LAN090HYV3	LAU090HYV3	Cooling	100	100	99.0	97.0	95.0	-	-	-	-	-	-
		Heating	100	100	99.2	97.6	96.0	-	-	-	-	-	-
LAN120HYV3	LAU120HYV3	Cooling	100	100	99.0	97.0	95.0	-	-	-	-	-	-
		Heating	100	100	99.2	97.6	96.0	-	-	-	-	-	-
LAN150HYV3	LAU150HYV3	Cooling	100	100	99.6	98.7	97.8	96.9	96.0	95.1	94.3	93.4	92.5
		Heating	100	100	99.8	99.3	98.9	98.4	98.0	97.5	97.1	96.6	96.2
LAN180HYV3	LAU180HYV3	Cooling	100	100	99.6	98.7	97.8	96.9	96.0	95.1	94.3	93.4	92.5
		Heating	100	100	99.8	99.3	98.9	98.4	98.0	97.5	97.1	96.6	96.2
LAN240HYV3	LAU240HVV3	Cooling	100	100	99.6	98.7	97.8	96.9	96.0	95.1	94.3	93.4	92.5
		Heating	100	100	99.8	99.3	98.9	98.4	98.0	97.5	97.1	96.6	96.2



PLACEMENT CONSIDERATIONS

Selecting the Best Location

DANGER

To avoid the possibility of fire, ⚠ do not install the unit in an area where combustible gas may generate, flow, stagnate, or leak. Failure to do so will cause serious bodily injury or death.

WARNING

Install a fence to prevent vermin from crawling into the unit or unauthorized individuals from accessing it. ⚠ Do not install the unit in a location where acidic solution and spray (sulfur) are often used as this may cause serious bodily injury or death. ⚠ Do not use the unit in environments where oil, steam, or sulfuric gas are present as this may cause serious bodily injury or death.

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 unit.
- Include space for drainage to ensure condensate flows properly out of the unit when it is in heating mode.
- Include enough space for air flow and for service access.

Dont's

- Where the unit will be subjected to direct thermal radiation from other heat sources.
- Where operating sound from the unit will disturb inhabitants of surrounding buildings.
- Where the unit will be exposed to direct, strong winds.

Note:

To ensure the outdoor unit operates properly, certain measures are required in locations where there is a possibility of heavy snowfall or severe wind chill 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 may malfunction.
3. Remove any snow that has accumulated by 4 inches or more on the top of the outdoor unit.
4. Place the outdoor unit on a raised platform at least 20 inches higher than the average annual snowfall for the area. In environments where there is a possibility of heavy snow, the frame height must be more than two (2) times the amount of average annual snowfall, and should not exceed the width of the outdoor unit. If the frame width is wider than the outdoor unit, snow may accumulate.
5. Install a snow protection hood.
6. To prevent snow and heavy rain from entering the outdoor unit, install the suction and discharge ducts facing away from direct winds.
7. Additionally, the following conditions should be taken into consideration when the unit operates in defrost mode:
 - 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.)
 - Sidewalks or parking lots near the outdoor unit may accumulate moisture after unit operates in defrost mode that can turn to ice.

Note:

The indoor unit may take longer to provide heat, or heating performance will be reduced in winter if the 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.

Ambient Air Conditions

Note:

- ⚠ Avoid exposing the unit to discharge from boiler stacks, chimneys, steam relief ports, other air conditioning units, kitchen vents, plumbing vents, or substances that may degrade performance or cause damage to the unit.
- When installing multiple outdoor units, avoid placing the units where discharge of one outdoor unit will blow into the inlet side of an adjacent unit.

WARNING

- ⚠ Avoid exposing the unit to sources of extreme temperature or gases to prevent serious bodily injury.

PLACEMENT CONSIDERATIONS

Indoor Unit Clearance/Outdoor Unit Installation

Indoor Unit Best Location

Note:

Follow recommended best practices when choosing an indoor location for the single zone indoor unit.

- Use a metal detector to locate studs in the walls. Anchor unit following stud location, to prevent damage to the wall.
- Clearance gap between any wall or enclosure and the left or right side of the unit must be greater than 4 inches.
- Minimum clearance of the indoor unit from its top to the ceiling is 8 inches.
- Unit should be at least 6.5 feet from the floor for adequate clearance.



- Keep unit away from any indoor steam or excessive heat.
- No obstacles should be placed around unit.
- Condensation drain (leakage piping) should be routed away from the unit.
- Do not install near doorway.

General Mounting for Outdoor Units

Securely attach the outdoor unit to a condenser pad, base rails, or another mounting platform that is securely anchored to the ground or building structure. Attach the outdoor unit with a bolt and nut on a concrete or rigid mount. Refer to the applicable installation manual and follow applicable local codes for clearance, mounting, anchor and vibration attenuation requirements.

Note:

All referenced materials are to be field-supplied. Images are not to scale.

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 may accumulate. When installing the outdoor unit on the wall, or roof top, anchor the mounting base securely to account for wind, earthquake or vibration.

Tie-Downs and Wind Restraints

The strength of the Single Zone system frame 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.

Note:

Always refer to local code when designing a wind restraint system.

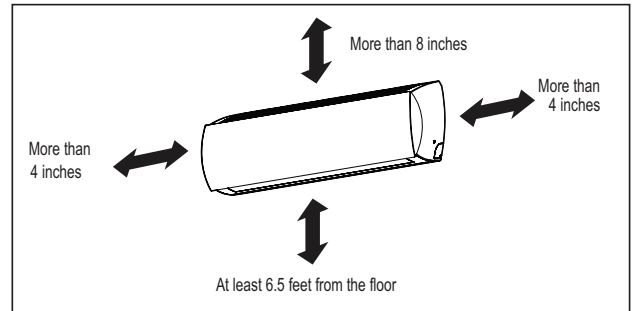
Snow and Ice Conditions

In climates that experience snow build-up, place the unit on a raised platform to ensure condenser airflow. The raised support platform must be high enough to allow the unit to remain above possible snow drifts. Mount the unit on a field-provided snow stand at a minimum height that is equal to the average annual snowfall plus 20 inches. Design the mounting base to prevent snow accumulation on the platform in front or back of the unit case. If necessary, provide a field fabricated hood to keep snow and ice and/or drifting snow from accumulating on the coil surfaces. Use inlet and discharge duct or hoods to prevent snow or rain from accumulating on the fan inlet and outlet guards. Best practice prevents snow from accumulating on top of the unit. 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 may create unsafe conditions.

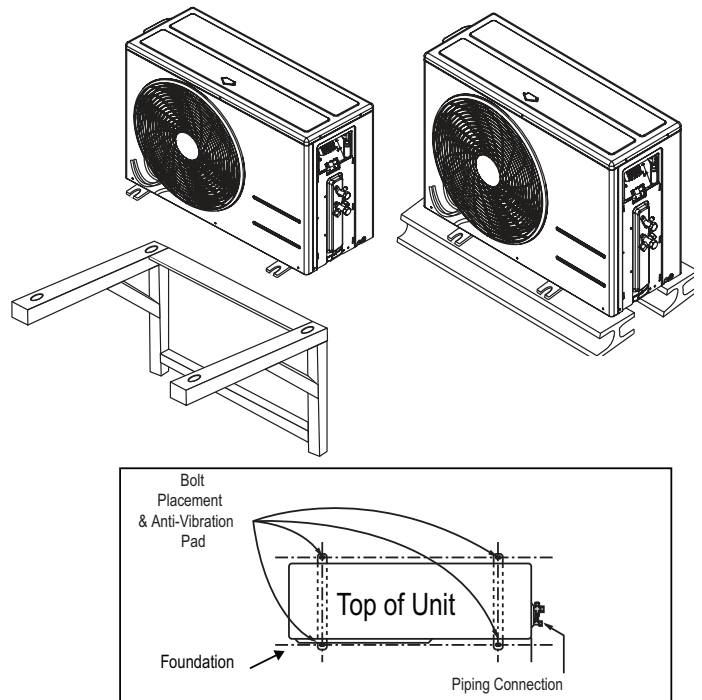
Figure 14: Single Zone Indoor Unit Clearance Requirements.



Note:

If the outdoor unit is installed between standard and minimum clearances, capacity decreases approximately 10 to 20%.

Figure 15: Outdoor Unit Mounting Methods.



PLACEMENT CONSIDERATIONS

Outdoor Unit Clearances

Minimum Clearance Requirements for Single Zone Art Cool Premier Systems

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.

Specific clearance requirements in the diagram below are for the Single Zone Wall Mounted Art Cool Premier systems. Figure 13 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 13) for height in relation to the unit. This clearance ensures that heat radiation from the condenser is not restricted around the unit.

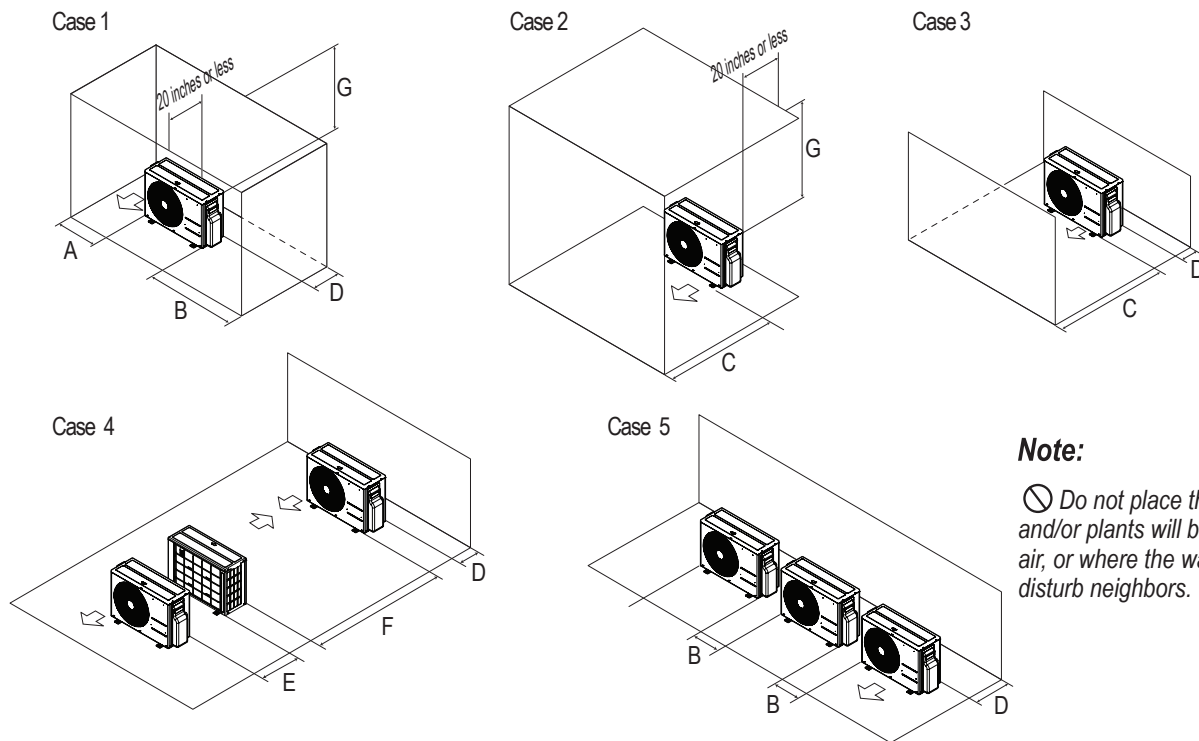
Adhere to all clearance requirements if installing the unit on a roof. Be sure to level the unit and ensure that the unit is adequately anchored. Consult local codes for rooftop mounting requirements.

In order to have successful service access to the outdoor unit, see Figure 13 for minimum spacing. When installing multiple outdoor units, see Cases 4 and 5 in Figure 13 for correct spacing requirements.

Note:

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

Figure 16: 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 32: 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	-	-	-

PLACEMENT CONSIDERATIONS

Installing Outdoor Units Indoors

Installing Outdoor Units Indoors

Single Zone Extended Piping Wall Mounted 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.
- 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 Single Zone Extended Piping Wall Mounted system designer to eliminate oversizing.
- The outdoor unit to compensate for loss of capacity at low ambient temperatures.
- Will 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 (see next page), 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 will 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 lower than the product's minimum operating temperature, ancillary heat must be provided to heat the outdoor unit coils to ensure continuous compressor operation and heating.

It will be necessary to use a field-fabricated air guide to prevent discharge air from short-cycling back to the coil inlet.

- 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.

⚠ 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 side-walks or driveways which will create unsafe conditions.

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.

Note:


For louver recommendations, see below and on the next page.

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.

Louver Recommendations for Outdoor Unit Enclosure

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

Note:

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

Note:

If the Louver Open Rate is Too Small

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

Figure 17: Louver Recommendations.

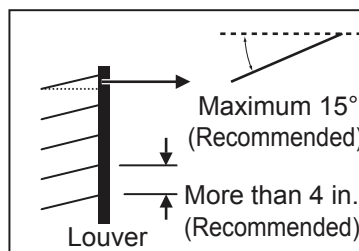
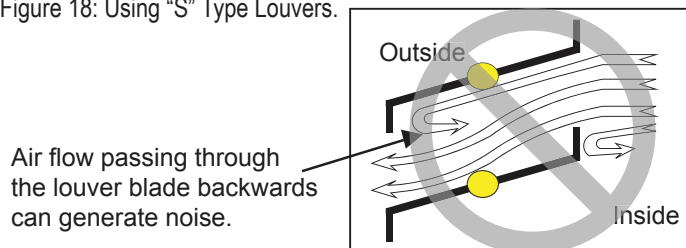


Figure 18: Using “S” Type Louvers.

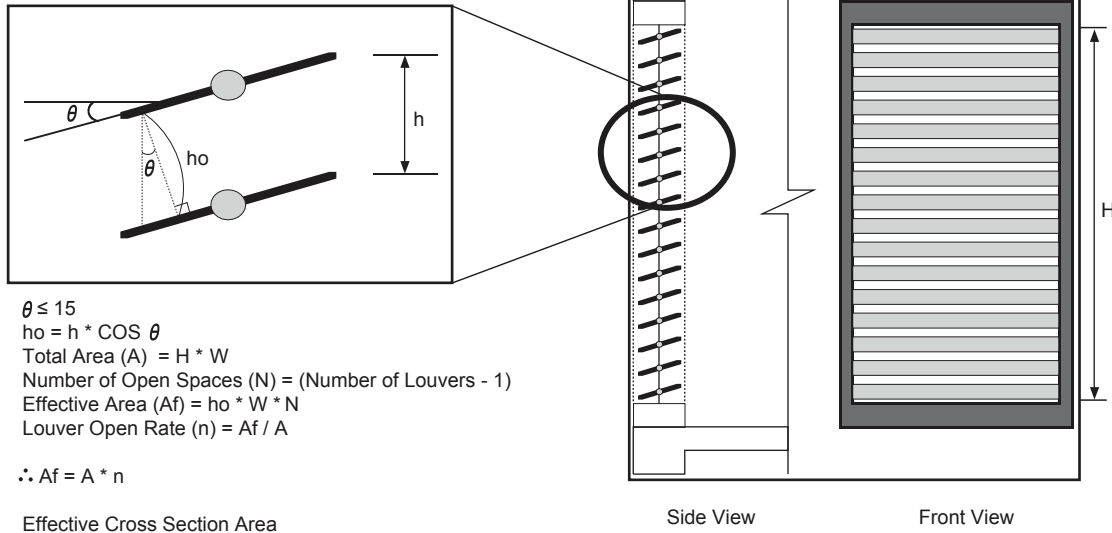


PLACEMENT CONSIDERATIONS

Installing Outdoor Units Indoors

Open Rate by Louver Radian

Figure 19: Open Rate by Louver Radian Formula.



Confirming Air Flow Rate / Total Opening Rate

• Example: LAU240HYV3

• Discharge Airflow Rate: 2,119 ft.³/min.

• Velocity of Outlet Air: 15.1 ft./s

• Velocity of Inlet Air: 6.5 ft./s

• Open Rate = 80% or More

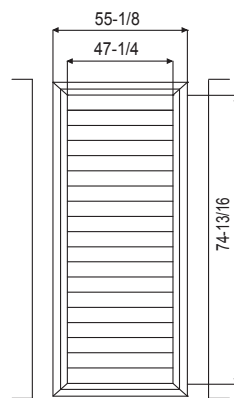
$$\text{Open Rate} = \frac{\text{Effective Face Area (Af)}}{\text{Total Face Area (A)}}$$

- Inlet airflow must match or exceed discharge airflow.
- Separate inlet airflow from discharge airflow to prevent recirculation.

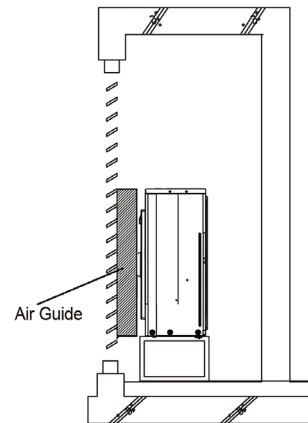
Figure 20: Example of Installing Outdoor Unit Indoors.

Louver Dimensions

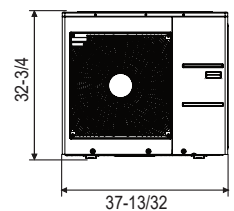
Air Guide Duct on Outdoor Unit



Unit: Inch



Outdoor Unit Dimensions



Formula

- Total Louver Dimension (Excluding Frame) (A) = 3.9 feet x 6.2 feet = 24.2 ft.²
- Area Blocked by Outdoor Unit (Discharge) (B) = 2.6 feet x 2.8 feet = 7.41 ft.²
- Inlet Louver Dimension (A - B) = 16.8 ft.²
- Equivalent Inlet Dimension (Open Rate 80%) = 16.8 ft.² x 0.8 = 13.44 ft.²
- Equivalent Inlet Airflow = 13.44 ft.² x 6.5 ft./s x 60 sec./min. = 5,242 ft.³/min.
- Equivalent Inlet Airflow / Discharge Airflow = 5,242 ft.³/min. / 2,119 ft.³/min. = 247% (Within Allowable Limits)

REFRIGERANT PIPING DESIGN & LAYOUT BEST PRACTICES

Refrigerant Piping Design on page 64

Selecting Field-Supplied Copper Tubing on page 65

Refrigerant Piping System Layout on page 66

Electrical Connections on page 70

REFRIGERANT PIPING DESIGN

Design Guideline Summary/Selecting Field-Supplied Copper Tubing

Device Connection Limitations

Single-zone systems consist of one outdoor unit and one indoor unit. One of the most critical elements of a single zone system is the refrigerant piping. The table below lists pipe length limits that must be followed in the design of a Single Zone Wall Mounted Art Cool Premier refrigerant pipe system. Refer to the figure for maximum length and elevation of piping.

Figure 21: Single Zone Wall Mounted Art Cool Premier System Layout.

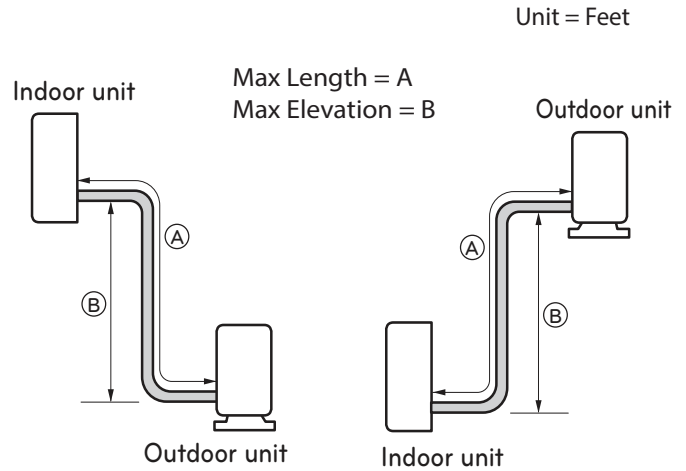


Table 33: Single Zone Wall Mounted Art Cool Premier Refrigerant Piping System Limitations.

Pipe Length (ELF = Equivalent Length of pipe in Feet)	Longest total equivalent piping length	LA090HYV3	LA120HYV3	LA150HYV3	LA180HYV3	LA240HYV3
		65.6 feet	65.6 feet	164 feet	164 feet	164 feet
	Shortest total equivalent piping length	9.8 feet	9.8 feet	9.8 feet	9.8 feet	9.8 feet
	Distance between fittings and indoor units or outdoor units	≥20 inches	≥20 inches	≥20 inches	≥20 inches	≥20 inches
Elevation (All Elevation Limitations are Measured in Actual Feet)	No Additional Refrigerant	24.6 feet	24.6 feet	24.6 feet	24.6 feet	24.6 feet
	If outdoor unit is above indoor unit	39.4 feet	39.4 feet	98.4 feet	98.4 feet	98.4 feet
	If outdoor unit is below indoor unit	39.4 feet	39.4 feet	98.4 feet	98.4 feet	98.4 feet
Additional Refrigerant Needed (oz/ft)		0.22	0.22	0.38	0.38	0.38

Table 34: Single Zone Wall Mounted Art Cool Premier Additional Refrigerant by Piping Length (oz.).

Model		Refrigerant Piping Length (feet)											
Indoor Unit	Outdoor Unit	16.4	24.6	32.8	41	49.2	65.6	82	98.4	114.8	131.2	147.6	164.0
LAN090HYV3	LAU090HYV3	0	0	1.8	3.6	5.4	9.0	-	-	-	-	-	-
LAN120HYV3	LAU120HYV3	0	0	1.8	3.6	5.4	9.0	-	-	-	-	-	-
LAN150HYV3	LAU150HYV3	0	0	3.1	6.2	9.3	15.6	21.8	28.0	34.3	40.5	46.7	53
LAN180HYV3	LAU180HYV3	0	0	3.1	6.2	9.3	15.6	21.8	28.0	34.3	40.5	46.7	53
LAN240HYV3	LAU240HYV3	0	0	3.1	6.2	9.3	15.6	21.8	28.0	34.3	40.5	46.7	53

- Values are in ounces (oz.).
- Capacity is based on standard length; maximum allowance length is based on reliability.
- Equivalent pipe length = actual pipe length + number of bends x 0.3.
- Calculation: $X \text{ oz.} = [(\text{Refrigerant Piping Length}) - (\text{Chargeless Length})] \times \text{Additional Refrigerant.}$

REFRIGERANT PIPING DESIGN

Selecting Field-Supplied Copper Tubing

Table 35: Linear Thermal Expansion of Copper Tubing in Inches.

Pipe Length ¹	Fluid Temperature °F																			
	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°	110°	115°	120°	125°	130°
10	0.04	0.04	0.05	0.06	0.06	0.07	0.08	0.08	0.09	0.09	0.10	0.10	0.11	0.11	0.11	0.12	0.13	0.14	0.15	0.15
20	0.08	0.08	0.10	0.12	0.13	0.14	0.15	0.16	0.17	0.18	0.19	0.20	0.21	0.22	0.22	0.23	0.26	0.28	0.29	0.30
30	0.12	0.12	0.15	0.18	0.20	0.21	0.23	0.24	0.26	0.27	0.29	0.30	0.32	0.33	0.32	0.35	0.39	0.42	0.44	0.45
40	0.16	0.16	0.20	0.24	0.26	0.28	0.30	0.32	0.34	0.36	0.38	0.40	0.42	0.44	0.43	0.46	0.52	0.56	0.58	0.60
50	0.20	0.20	0.25	0.30	0.33	0.35	0.38	0.40	0.43	0.45	0.48	0.50	0.53	0.55	0.54	0.58	0.65	0.70	0.73	0.75
60	0.24	0.24	0.30	0.36	0.39	0.42	0.45	0.48	0.51	0.54	0.57	0.60	0.63	0.66	0.65	0.69	0.78	0.84	0.87	0.90

¹Pipe length baseline temperature = 0°F. "Expansion of Carbon, Copper and Stainless Steel Pipe," *The Engineers' Toolbox*, www.engineeringtoolbox.com.

Figure 22: Coiled Expansion Loops and Offsets.

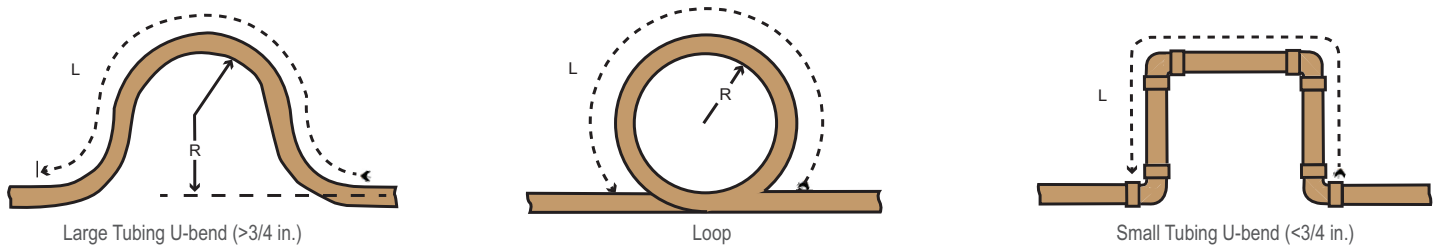


Table 36: Radii of Coiled Expansion Loops and Developed Lengths of Expansion Offsets.

Anticipated Linear Expansion (LE) (inches)		Nominal Tube Size (OD) inches			
		1/4	3/8	1/2	3/4
1/2	R ¹	6	7	8	9
	L ²	38	44	50	59
1	R ¹	9	10	11	13
	L ²	54	63	70	83
1-1/2	R ¹	11	12	14	16
	L ²	66	77	86	101
2	R ¹	12	14	16	19
	L ²	77	89	99	117
2-1/2	R ¹	14	16	18	21
	L ²	86	99	111	131
3	R ¹	15	17	19	23
	L ²	94	109	122	143
3-1/2	R ¹	16	19	21	25
	L ²	102	117	131	155
4	R ¹	17	20	22	26
	L ²	109	126	140	166

¹R = Centerline Length of Pipe.

²L = Centerline Minimum Radius (inches).

Definitions

Physical Pipe Length: Actual length of straight segment(s) of pipe.

Equivalent Pipe Length: Actual length of pipe plus equivalent lengths of long radius elbows, Y-branches, and valves.

Layout Procedure

1. Draft a one-line diagram of the proposed piping system connecting outdoor unit to indoor units. Follow the pipe limitations listed on the previous page.
2. Calculate the physical length of each pipe segment and note it on the drawing.
3. Calculate the equivalent pipe length of each pipe segment.

Using Elbows

Field-supplied elbows are allowed as long as they are long radius and designed for use with R410A refrigerant. The designer should be cautious with the quantity and size of fittings used, and must account for the additional pressure losses in equivalent pipe length calculation. The equivalent pipe length of each elbow must be added to each pipe segment. See the table for equivalent lengths.

Table 37: Equivalent Piping Length for Piping Components.

Component	Size (Inches)				
	1/4	3/8	1/2	5/8	3/4
Long Radius Elbow (ft.)	0.5	0.6	0.7	0.8	1.2

INSTALLATION & LAYOUT BEST PRACTICES

Refrigerant Piping System Layout

Field-Provided Isolation Ball Valves

LG maintains a neutral position on using isolation valves in refrigerant piping systems. LG does not endorse any manufacturer of isolation valves. It is recognized that installing isolation valves may simplify future maintenance requirements, and, if used, considerations should be taken including, but not limited to, the following:

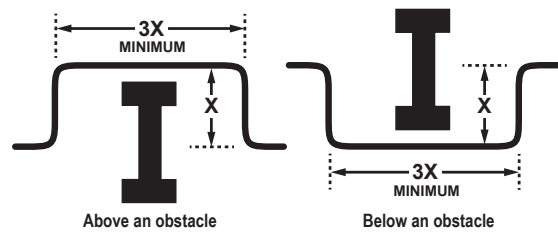
- Pressure drops for any component used, including isolation valves, must be known in equivalent pipe length and calculated into the total and segment equivalent piping lengths and compared to product design limitations.
- In all cases, materials must be suitable for the application and any applicable codes, including, but not limited to, diameter and wall thickness continuity per ACR standards.

Failure to do so may cause significant performance degradation. Proper leak checks must be performed. Using isolation valves does not automatically void any LG product warranty, however, a limited warranty may be voided in whole or part should any field supplied accessory fail in any way that causes product failure.

Obstacles

When an obstacle, such as an I-beam or concrete T, is in the path of the planned refrigerant pipe run, it is best practice to route the pipe over the obstacle. If adequate space is not available to route the insulated pipe over the obstacle, then route the pipe under the obstacle. In either case, it is imperative the horizontal section of pipe above or below the obstacle be a minimum of three (3) times greater than the longest vertical rise (or fall) distance.

Figure 23: Installing Piping Above and Below an Obstacle.



In-line Refrigeration Components

Components such as oil traps, solenoid valves, filter-dryers, sight glasses, tee fittings, and other after-market accessories are not permitted on the refrigerant piping system between the outdoor unit and the indoor unit. Single Zone Wall Mounted Art Cool Premier air-source systems are provided with redundant systems that ensure oil is properly returned to the compressor. Sight-glasses and solenoid valves may cause vapor to form in the liquid stream. Over time, dryers may deteriorate and introduce debris into the system. The designer and installer verify the refrigerant piping system is free of traps, sagging pipes, sight glasses, filter dryers, etc.

No Pipe Size Substitutions

Using a different size is prohibited and may result in a system malfunction or failure to work at all.

Pipe Supports

A properly installed pipe system should be adequately supported to avoid pipe sagging. Sagging pipes become oil traps that lead to equipment malfunction. Pipe supports should never touch the pipe wall; supports shall be installed outside (around) the primary pipe insulation jacket. Insulate the pipe first because pipe supports shall be installed outside (around) the primary pipe insulation jacket. Clevis hangers should be used with shields between the hangers and insulation. Field provided pipe supports must meet local codes. If allowed by code, use fiber straps or split-ring hangers suspended from the ceiling on all-thread rods (fiber straps or split ring hangers can be used as long as they do not compress the pipe insulation). Place a second layer of insulation over the pipe insulation jacket to prevent chafing and compression of the primary insulation within the confines of the support pipe clamp.

A properly installed pipe system will have sufficient supports to avoid pipes from sagging during the life of the system. As necessary, place supports closer for segments where potential sagging could occur. Maximum spacing of pipe supports must meet local codes.

If local codes do not specify pipe support spacing, pipe must be supported:

- Maximum of five feet (5') on center for straight segments of pipe up to 3/4" outside diameter size.
- Wherever the pipe changes direction, place a hanger within twelve (12) inches on one side and within twelve to nineteen (12 to 19) inches of the bend on the other side as shown.

Figure 24: Pipe Hanger Details.

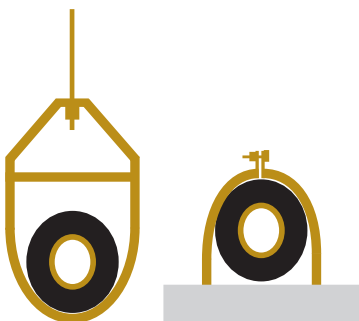


Figure 25: Typical Pipe Support Location—Change in Pipe Direction.

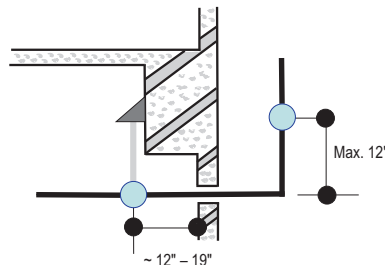
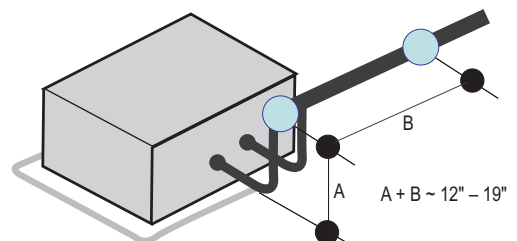


Figure 26: Pipe Support at Indoor Unit.



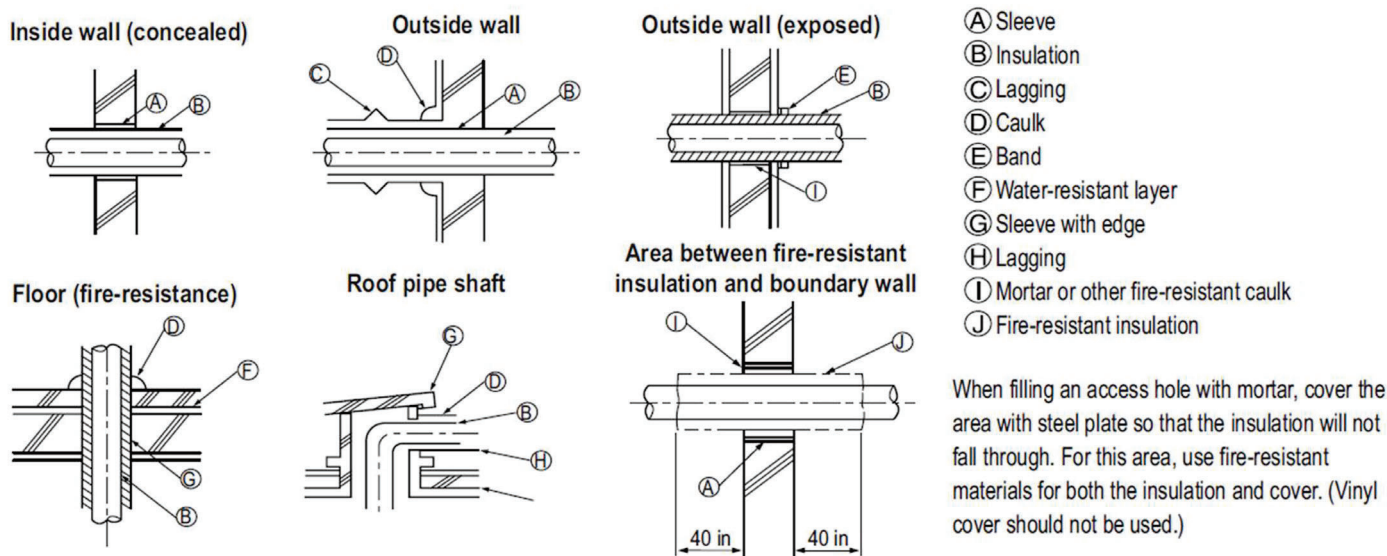
INSTALLATION & LAYOUT BEST PRACTICES

Refrigerant Piping System Layout

Pipe Sleeves at Penetrations

LG requires that all pipe penetrations through walls, floors, and pipes buried underground be properly insulated and routed through an appropriate wall sleeve of sufficient size to prevent compression of refrigerant pipe insulation and free movement of the pipe within the sleeve. Underground refrigerant pipe shall be routed inside a protective sleeve to prevent insulation deterioration. See figure below.

Figure 27: Pipe Sleeve Options.



Note:

Diameter of penetrations shall be determined by pipe diameter plus the thickness of the insulation.

Underground Refrigerant Piping

Refrigerant pipe installed underground should be routed inside a vapor tight protective sleeve to prevent insulation deterioration and water infiltration. Refrigerant pipe installed inside underground casing must be continuous without any joints. Underground refrigerant pipe must be located at a level **below the frost line**.

Table 38: Utility Conduit Sizes (Inches).

Liquid Pipe ¹	Vapor Pipe ¹		
	3/8 (1-1/8 ^{2,3})	1/2 (2.0 ^{2,4})	5/8 (2-1/8 ^{2,4})
1/4 (1.0) ⁴	4	4	4
3/8 (1-1/8) ⁴	4	4	4

¹OD pipe diameter in inches; Values in parenthesis () indicate OD of pipe with insulation jacket.

²Diameter of pipe with insulation. Thickness of pipe insulation is typical. Actual required thickness may vary based on surrounding ambient conditions and should be calculated and specified by the design engineer.

³Insulation thickness (value in parenthesis) = 3/8 inch.

⁴Insulation thickness (value in parenthesis) = 3/4 inch.

Figure 28: Typical Arrangement of Refrigerant Pipe and Cable(s) in a Utility Conduit.

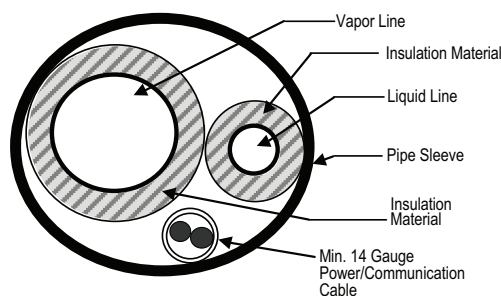


Table 39: Outdoor Unit Refrigerant Pipe Connections (All Brazed Type).

Model	Liquid Conn. (inches)	Vapor Conn. (inches)
LAU090HYV3, LAU120HYV3	1/4	3/8
LAU150HYV3, LAU180HYV3, LAU240HYV3	3/8	5/8

INSTALLATION & LAYOUT BEST PRACTICES

Refrigerant Piping System Layout

Single Zone Art Cool Premier Outdoor Unit Connections

1. Remove the tubing cover from the unit by loosening the fastening screws.
2. Align the center of the refrigerant pipe and corresponding connection.
3. Place a couple of drops of refrigerant oil on the opening rim of the flare before assembling. ⚠ Do not add any contaminants. Tighten the flare nut initially by hand.
4. Finish tightening the flare nut with a torque wrench until the wrench clicks.

Table 40: Torque Wrench Tightening.

Outside Diameter (Inches)	Torque (Lbs.-ft)
1/4	13-18
3/8	24.6-30.4
1/2	39.8-47.7
5/8	45.6-59.3
3/4	71.6-87.5

Figure 30: LAU090HYV3/LAU120HYV3 Outdoor Unit Connection Cover Removal.

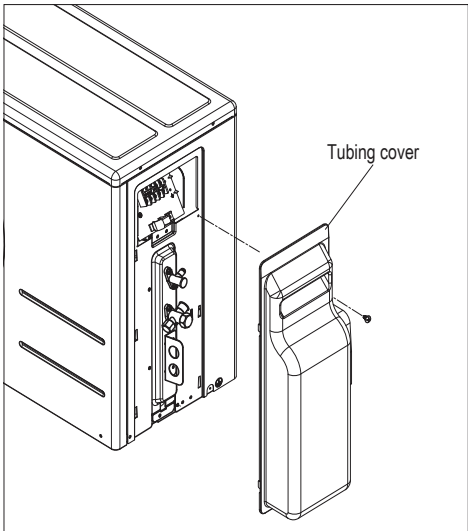


Figure 32: LAU090HYV3/LAU120HYV3 Outdoor Unit Piping Connection.

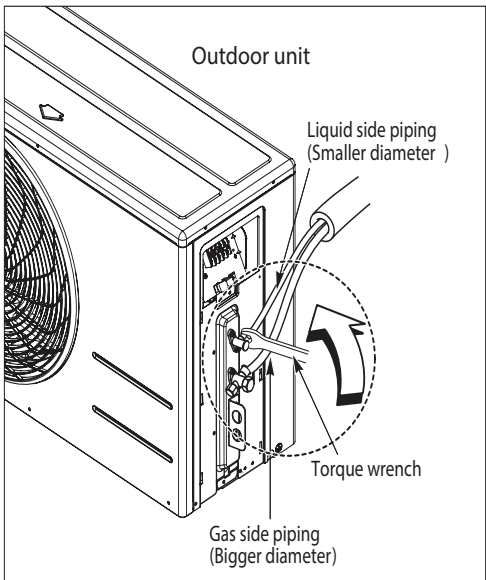
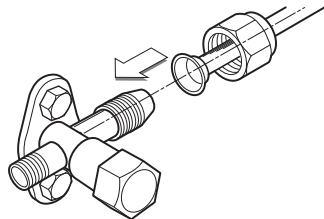


Figure 29: Pipe Attachment.



Note:
When tightening the flare nut with a torque wrench, ensure the direction for tightening follows the arrow on the wrench.

Figure 31: LAU150HYV3, LAU180HYV3, LAU240HYV3 Outdoor Unit Connection Cover Removal.

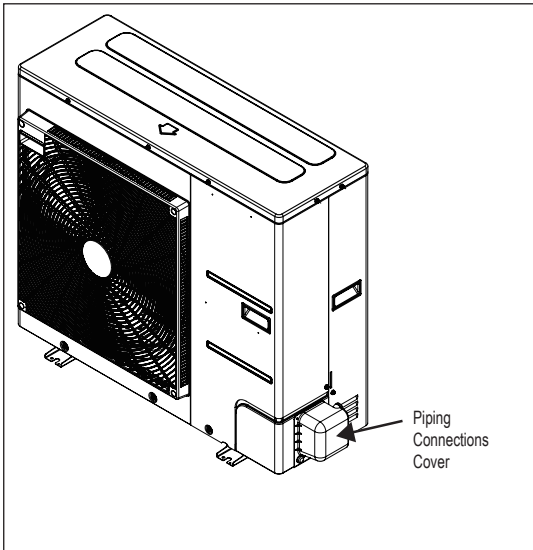
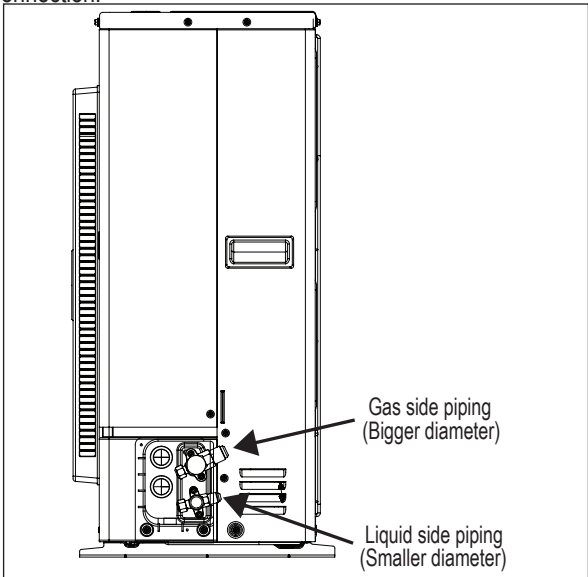


Figure 33: LAU150HYV3, LAU180HYV3, LAU240HYV3 Outdoor Unit Piping Connection.



INSTALLATION & LAYOUT BEST PRACTICES

Refrigerant Piping System Layout

Refrigerant Piping / Brazing Practices

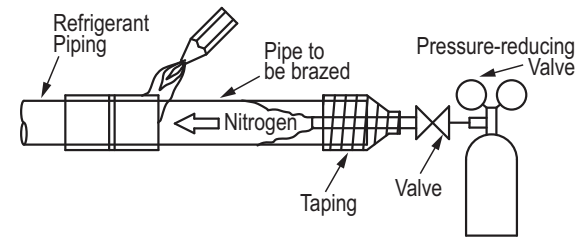
Note:

It is imperative to keep the piping system free of contaminants and debris such as copper burrs, slag, or carbon dust during installation.

All joints are brazed in the field. Single Zone Wall Mounted Art Cool Premier refrigeration system components contain very small capillary tubes, small orifices, electronic expansion valves, oil separators, and heat exchangers that can easily become blocked. Proper system operation depends on the installer using best practices and utmost care while assembling the piping system.

- While brazing, use a dry nitrogen purge operating at a minimum pressure of three (3) psig and maintain a steady flow.
- Blow clean all pipe sections with dry nitrogen prior to assembly.
- Use a tubing cutter, Ⓢ do not use a saw to cut pipe. De-burr and clean all cuts before assembly.
- Store pipe stock in a dry place. Keep pipe capped and clean.
- Use adapters to assemble different sizes of pipe.
- Ⓢ Do not use flux, soft solder, or anti-oxidant agents.
- Use a 15% silver phosphorous copper brazing alloy to avoid overheating and produce good flow.
- Protect isolation valves, electronic expansion valves, and other heat-sensitive control components from excessive heat with a wet rag or a heat barrier spray product.

Figure 34: Refrigerant Pipe Brazing.



Refrigerant Piping System Insulation

All refrigerant piping, field-provided isolation ball valves, service valves, and long radius elbows shall be completely insulated using closed cell pipe insulation. The liquid and vapor lines must be insulated separately.

To prevent heat loss/heat gain through the refrigerant piping, all refrigerant piping including liquid lines and vapor lines shall be insulated separately. Insulation shall be a minimum 1/2" thick, and thickness may need to be increased based on ambient conditions and local codes.

All insulation joints shall be glued with no air gaps. Insulation material must fit snugly against the refrigeration pipe with no air space between it and the pipe. Insulation passing through pipe hangers, inside conduit, and/or sleeves must not be compressed. Protect insulation inside hangers and supports with a second layer. All pipe insulation exposed to the sun and outdoor elements shall be properly protected with PVC, aluminum vapor barrier, or alternatively placed in a weather-resistant enclosure such as a pipe rack with a top cover, and meet local codes.

The design engineer should perform calculations to determine if the factory-supplied insulation jackets are sufficient to meet local codes and avoid sweating. Add additional insulation if necessary. Mark all pipes at the point where the insulation jacket ends. Remove the jacket. Install field-provided insulation on the run-out and main truck pipes first. Peel the adhesive glue protector slip from the insulation jacket and install the clam-shell jacket over the fitting.

Charging

Each outdoor unit is factory charged (nameplate charge) for the evaporator as well as a standard 25 foot line. Any time a line set is used longer than the standard line set length, the refrigerant charge has to be adjusted.

You must adjust the charge based on how many feet of piping are added based on 0.22 or 0.38 oz. of R410A per foot. The factory charge accommodates pipe lengths up to the standard length without requiring refrigerant removal.

Note:

If you are uncertain of the unit charge, reclaim, evacuate and weigh in the correct charge using the unit nameplate (capacity) charge adjusting for line sets longer than 24.6 ft. This will prevent any interruptions to the functioning of the unit and possible damage.

Example: A 50 ft line set is used --

$25.4 \text{ additional feet} \times 0.22 \text{ oz per ft} = \text{Add } 5.58 \text{ oz of R410A}$

Table 41: Charging Capacity.

Capacity (Btu/h)/Model	Pipe Size		Standard Length (ft)	Max. Elevation (ft)	Max. Length (ft)	Min. Length (ft)	Additional Refrigerant (oz/ft)
	Vapor	Liquid					
9k, 12k HYV3	3/8	1/4	24.6	39.4	65.6	9.8	0.22
15k, 18k HYV3	5/8	3/8	24.6	98.4	164	9.8	0.38
24k HYV3	5/8	3/8	24.6	98.4	164	9.8	0.38

ELECTRICAL CONNECTIONS

Outdoor Electrical Connection

1. Remove the control cover from the unit by loosening the fastening screw.
2. Take off the caps on the conduit panel.
3. Connect both the power supply and low voltage lines to the corresponding terminals on the terminal block.
4. Be sure to ground the unit by following local codes.
5. Allow for enough length (add several inches) for each wiring.
6. Secure the cable with a cord clamp.
7. Secure conduit tubes with lock nuts.
8. Reattach the control cover to the original position with the fastening screw.

⚠ WARNING

- Separately wire the high and low voltage lines. There is a risk of electric shock, physical injury, or death.
- Use heat-proof electrical wire capable of withstanding temperatures up to 167°F to avoid wiring malfunction and electrical shock, which may cause physical injury or death.
- Ensure you connect the wire firmly. Loose wiring may cause unit malfunction, the wires to burnout or the terminal to overheat and catch fire. There is a risk of electric shock, physical injury or death.
- Use outdoor and waterproof connection cable rated up to 300V for the connection between the indoor and outdoor unit to avoid electrical shock, which may cause physical injury or death.

Figure 35: LAU090HYV3/
LAU120HYV3 Outdoor Unit
Electrical Connection.

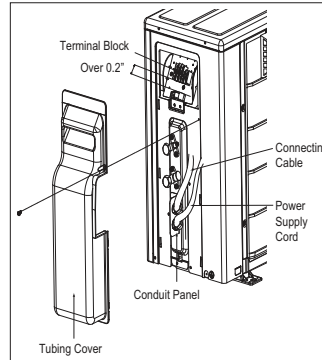


Figure 36: LAU150HYV3/
LAU180HYV3/LAU240HYV3
Outdoor Unit
Electrical Connection.

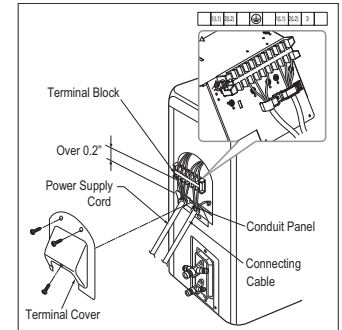


Figure 37: Circuit Breaker.

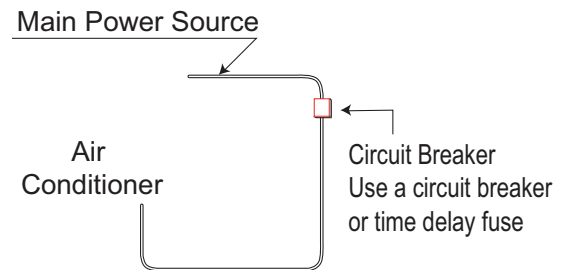
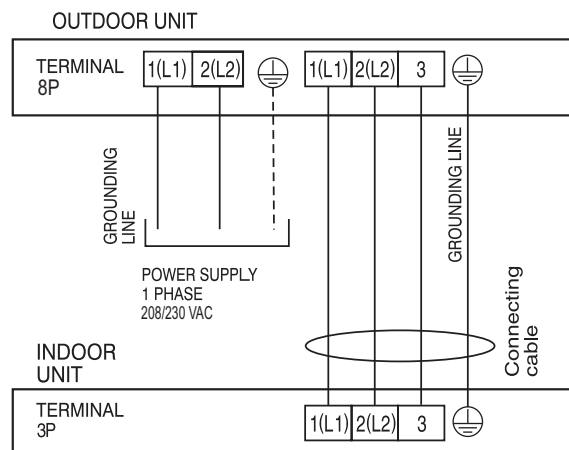


Figure 38: LAU090HYV3, LAU120HYV3, LAU150HYV3, LAU180HYV3,
LAU240HYV3 Outdoor Unit Electrical Connection.



Note:

- Separately wire the high and low voltage lines to avoid damage to unit.
- Local codes may require field-installed disconnect switches from outdoor unit to indoor unit.
- Use heat-proof electrical wire capable of withstanding temperatures up to 167°F to avoid damage to unit.
- Always use a circuit breaker or time delay fuse when connecting electrical wiring to the unit.
- Ensure you connect the wire firmly. Loose wiring may cause unit malfunction, the wires to burnout or the terminal to overheat and catch fire. There is a risk of equipment malfunction or property damage.
- Use outdoor and waterproof connection cable rated up to 300V for the connection between the indoor and outdoor unit to avoid damage to the unit.
- Comply with local codes while running wire from the indoor unit to the outdoor unit.
- Do not allow wire to touch refrigerant tubing, the compressor or any moving parts since it can lead to mechanical failure.

TECHNICAL DATA

Mechanical Specifications on page 72

Acronyms on page 73

MECHANICAL SPECIFICATIONS

Single Zone Wall Mounted Art Cool Premier

General

LG Single Zone Wall Mounted Art Cool Premier systems are comprised of a single outdoor unit connected to a single indoor unit with a single refrigerant circuit.

These single zone systems can operate in either cooling or heating mode. These systems are capable of changing mode within a maximum time of three (3) minutes to ensure indoor temperature can be properly maintained.

LG Single Zone Wall Mounted Art Cool Premier systems 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

Outdoor Unit

Operating ranges for Outdoor units of 14°F to 118°F DB for cooling; -13°F to 65°F WB for heating.

Indoor Unit

Operating ranges for Indoor Units of 53°F to 75°F WB for cooling; 60°F to 86°F DB for heating.

(Installing an optional Low Ambient Wind Baffle Kit will allow operation down to 0°F in cooling mode for these single zone systems.)

Casing / Frame

Outdoor unit is constructed with pre-coated metal (PCM).

Indoor unit is constructed of heavy duty Acrylonitrile Butadiene Styrene (ABS) and High Impact Polystyrene (HIPS) plastic.

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, service valves, and interconnecting piping.

Refrigeration Oil Control

Heat Pump outdoor units have a centrifugal oil separator and controls to ensure sufficient oil supply is maintained, and that oil does not travel with the refrigerant.

Compressors

The outdoor unit is equipped with one hermetic digitally controlled inverter driven twin-rotary compressor to modulate capacity (modulation in 1 Hz increments).

Frequency ranges for the outdoor units are as follows:

Model:	Cooling	Heating
LAU090HYV3	10 - 53Hz	10 - 100Hz
LAU120HYV3	10 - 61Hz	10 - 110Hz
LAU150HYV3	10 - 60Hz	10 - 100Hz
LAU180HYV3	10 - 65Hz	10 - 100Hz
LAU240HYV3	10 - 70Hz	10 - 100Hz

Overcurrent protection and vibration isolation are integrated with the compressor.

Outdoor Unit Coil

Heat Pump outdoor unit coils are made of a nonferrous construction with louvered fins on copper tubing, and are protected with an integral coil guard. Coil fins have a factory applied corrosion resistant GoldFin™ material with hydrophilic coating.

Fans and Motors

The outdoor unit includes one direct fan drive, variable speed propeller type fan. The Brushless Digitally Controlled (BLDC) fan motor shall have inherent protection, permanently lubricated bearings, and variable speed with a maximum speed up to 950 rpm. Raised guards are provided to limit contact with moving parts.

The outdoor unit has horizontal discharge airflow.

Electrical

These units are available in 208-230V, 60 Hz, 1-phase power supply. These units are capable of operating within voltage limits of $\pm 10\%$ rated voltage, and include overcurrent protection.

Controls

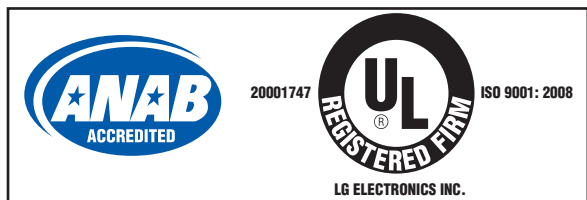
These units are factory wired with necessary electrical control components, integral microprocessors, printed circuit boards, thermistors, sensors, terminal blocks, and lugs for power wiring.

Microprocessor-based algorithms provide component protection, soft-start capability, refrigeration system pressure, temperature, defrost, and ambient control.

Table 42: Table of Acronyms.

ABS	Acrylonitrile Butadiene Styrene	IDU	Indoor Unit
AC	Air Conditioner	ISO	International Organization for Standardization
ACP	Advanced Control Platform	kW	Kilo Watts
ASHRAE	American Society of Heating, Refrigeration, and Air Conditioning	LED	Light Emitting Diode
AWG	American Wire Gauge	MBh	Thousands BTUs per hour
BLDC	Brushless Digitally Controlled/Direct	MCA	Maximum Circuit Ampacity
Btu/h	British Thermal Units per hour	MOP	Maximum Overcurrent Protection
BUS	Binary Unit System	MSC	Maximum Starting Current
CFM	Cubic Feet per Minute	NC	Noise Criterion (regarding Sound Pressure Levels)
COP	Coefficient Of Performance	NEC	National Electrical Code
CR	Combination Ratio	ODU	Outdoor Unit
DB	Dry Bulb	PCB	Printed Circuit Board
dB(A)	Decibels with "A" frequency weighting	PCM	Pre-Coated Metal
DDOAS	Decoupled Dedicated Outdoor Air	PDI	Power Distribution Indicator
DI	Digital Input	PI	Power Input
DO	Digital Output	PTAC	Packaged Terminal Air Conditioner
DPST	Double-Pole Single-Throw (switch)	PVC	Polyvinyl Chloride
EEV	Electronic Expansion Valve	SW or S/W	Switch
ELF	Equivalent Length in Feet	USB	Universal Serial BUS
ESP	External Static Pressure	VAC	Voltage Alternating Current
ETL	Electronic Testing Laboratories	VAV	Variable Air Volume
HIPS	High Impact Polystyrene	VRF	Variable Refrigerant Flow
H/M/L	High/Medium/Low	WB	Wet Bulb
HVAC	Heating, Ventilation and Air Conditioning		

Inverter



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Commercial Air Conditioning Division
4300 North Point Parkway
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www.lghvac.com

EM_SZ_ArtCoolPremier_ALL_09_23
Supersedes: EM_SZ_ArtCoolPremier_ALL_07_23
EM_SZ_ArtCoolPremier_ALL_01_23
EM_SZ_ArtCoolPremier_ALL_12_22
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