

U.S. Army Corps of Engineers (USACE) TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE For use of this form, see ER 415-1-0; the proponent agency is CECW-CE	DATE 5/15/2023	TRANSMITTAL NO. 23 81 00-1
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SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS (This section will be initiated by the contractor)

TO: 81st RSC Geographic District ROs 69A Hagood Avenue Charleston, SC 29403-5107	FROM: TEAM CONSTRUCTION 825 Gum Branch Rd. STE 128 JACKSONVILLE NC 28540-6312 USA	CONTRACT NO. W912HP21D6006 W912HP22F1176	CHECK ONE: <input checked="" type="checkbox"/> THIS IS A NEW TRANSMITTAL <input type="checkbox"/> THIS IS A RESUBMITTAL OF TRANSMITTAL _____
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SPECIFICATION SEC. NO. (Covers only one section with each transmittal) 23 81 00-Decentralized Unitary HVAC Equipment	PROJECT TITLE AND LOCATION FY22 81st NC026 HEP Reset; W'ville, NC, Winterville, NC	THIS TRANSMITTAL IS FOR: (Check one) <input checked="" type="checkbox"/> FIO <input type="checkbox"/> GA <input type="checkbox"/> DA <input type="checkbox"/> CR <input type="checkbox"/> DA/CR <input type="checkbox"/> DA/GA
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ITEM NO. <small>(See Note 3)</small>	DESCRIPTION OF SUBMITTAL ITEM <small>(Type size, model number/etc)</small>	SUBMITTAL TYPE CODE <small>(See Note 8)</small>	NO. OF COPIES	CONTRACT DOCUMENT REFERENCE		CONTRACTOR REVIEW CODE	VARIATION <small>Enter "Y" if requesting a variation (See Note 6)</small>	USACE ACTION CODE <small>(Note 9)</small>
				SPEC. PARA. NO.	DRAWING SHEET NO.			
a.	b.	c.	d.	e.	f.	g.	h.	i.
6	Supplied Products	03 - PRODUCT	1	2.1		A	No	
7	Manufacturer's Standard Catalog Data	03 - PRODUCT	1	2.2		A	No	

REMARKS
 This is a resubmittal

	I certify that the above submitted items had been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise stated.
NAME OF CONTRACTOR	 SIGNATURE OF CONTRACTOR

SECTION II - APPROVAL ACTION			
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ENCLOSURES RETURNED (List by Item No.)	NAME AND TITLE OF APPROVING AUTHORITY	SIGNATURE OF APPROVING AUTHORITY	DATE
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SUBMITTAL DATA SHEET

To:

Project:

Architect:

Engineer:

Product:


Supplier:

Spec Section:

Drawing:

Submittal Notes:

APPROVAL STAMPS

<p>East Bound Mechanical 3195-B Airport Blvd. Wilson, NC 27896</p>  <p>Reviewed - Furnish Pending A/E Approval/Review</p> <p>Notes Indicated</p> <p>Resubmittal - See Comments</p> <p>Reviewed By:</p> <p>Date:</p> <p>Review of this drawing and or data does not indicate approval of variations to the contract documents or coordination with other trades as may be required.</p>	<p>General Contractor</p>	<p>Architect/Engineer</p>
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RE-SUBMITTAL FOR APPROVAL

PROJECT: NC026 Army Reserve Center Reset

LOCATION: Winterville, NC



Mini-Split Systems

EQUIPMENT	Mini-Split Systems
UNIT TAGS	CU-02/AH-02 & CU-04/AH-04
QUANTITY	2

SOLD TO:
Eastbound Mechanical

ENGINEER:
Cromwell

PREPARED BY: JOHNSON
CONTROLS, INC.
Michael Trimberger
919-215-5426

DATE:
5/10//2023

REVISION:
02



Response to Comments REV 01

JOB: NC026 Army Reserve Center Reset

JCI responses are in red to engineering comments in black.

1. Provide low ambient cooling down to -40deg F as scheduled.
The submitted split systems provide cooling down to -4deg F with the added low ambient wind baffles. Cooling selections are not possible below -4deg F ambient. This temperature is much lower than what outdoor units will see during any normal winter season in Winterville, NC. Engineering to approve the submitted split systems with the added wind baffles for low ambient operation.
2. Provide additional refrigerant as required for line lengths longer than 24.6 ft.
Mechanical contractor to provide additional refrigerant as needed for the installed pipe lengths.



Table of Contents

1. Notes and Clarifications
2. Bill of Materials
3. LG Submittal Data
4. Equipment Release Approval Form

Notes & Clarifications

1. Submittal based on the following:
 - Drawings and Specifications dated 04/28/2022

2. Unit General Notes:
 - Contractor/engineer to **confirm all pertinent data before release**, including (but not limited to the following):
 - a) **Unit quantities**
 - b) **Dimensions, weights, & clearances**
 - c) **Performance**
 - d) **Power requirements**
 - e) **Features, options, & accessories**
 - f) **Handing and orientation**
 - Current base lead time is 5 weeks. This does not include time to release or shipment. Base lead time can change.
 - Per 2023 DOE requirements, efficiency ratings changed from SEER to SEER2. The manufactured unit label will show a SEER2 rating instead of the scheduled SEER rating.
 - Heating mode can be disabled via the Lock setting of the included wired controller.



BILL OF MATERIAL DATA

EQUIPMENT	Mini-Split Systems
UNIT TAGS	CU-02/AH-02 & CU-04/AH-04
QTY	2

Items Included by Johnson Controls

- (2) Outdoor Units
 - Variable Speed Inverter Compressor
 - Low Ambient Wind baffles (cooling down to -4F ambient)
 - GoldFin condenser coil coating
 - Condensate Pump
- (2) Indoor Units
 - EC Motor
 - 1/2" Foil Faced Insulation
 - Wired Controller
 - Indoor unit powered by outdoor unit

Items NOT Included

- Disconnect
- Auxiliary drain pan
- Condenser stands/curbs
- Controls not listed above
- Piping, valves, and wiring
- Additional refrigerant
- Rigging, hauling, or providing access for equipment
- Startup and owner training
- Extended warranty

Job Name/Location:

Tag #:

Date: _____

For: File	Resubmit
Approval	Other_____

PO No.: _____

Architect: _____ GC: _____

Engr: _____ Mech: _____

Rep: _____
(Company) (Project Manager)

LV361HV4

Single Zone Vertical Air Handler Unit

Outdoor Unit (ODU) - LUU369HV Indoor Unit (IDU) - LVN361HV4



Performance:

Cooling:

Cooling Capacity (Min~Rated~Max, Btu/h)	14,400 ~ 36,000 ~ 39,000
SEER / EER	18.0/11.0

SEER - Seasonal Energy Efficiency Ratio EER - Energy Efficiency Ratio

Heating:

Heating Capacity (Min~Rated~Max, Btu/h)	16,000 ~ 40,000 ~ 43,000
HSPF	10
Max heating @ Indoor 70° DB (Btu/h)	
Outdoor 17°F WB	37,350
Outdoor 5°F WB	35,000
Outdoor -4°F WB	32,220

HSPF - Heating Seasonal Performance Factor
Cooling Nominal Test Conditions:
Indoor: 80°F DB / 67°F WB
Outdoor: 95°F DB / 75°F WB

Heating Nominal Test Conditions:
Indoor: 70°F DB / 60°F WB
Outdoor: 47°F DB / 43°F WB

Electrical:

Power Supply ¹ (V/Hz/Ø)	208-230 / 60 / 1
MOP / MCA (A)	40 / 32
Cooling / Heating Rated Amps (A)	26.3 / 26.3
Compressor(A)	22.0
Fan Motor (IDU + ODU) (A)	1.1 + (1.6 x 2)
Cooling Power Input (Min~Rated~Max, kW)	1.00 ~ 3.27 ~ 3.60
Heating Power Input (Min~Rated~Max, kW)	1.02 ~ 3.57 ~ 4.40

MOP - Maximum Overcurrent Protection MCA - Minimum Circuit Ampacity

Piping:

Installed Liquid Pipe (in., O.D.)	3/8 Flare
Installed Vapor Pipe (in., O.D.)	5/8 Flare
IDU Liquid Connection (in., O.D.)	3/8 Flare
IDU Vapor Connection (in., O.D.)	5/8 Flare
Additional Refrigerant (oz./ft.)	0.43
Min/Max. Pipe Length (ft.)	6.6 / 246
Piping Length (no add'l refrig., ft.)	24.6
Max. Elevation (ft.)	98.4

Features:

- Hot start
- Inverter (variable speed)
- Auto restart
- Control lock
- W2 terminal connection
- Group control
- Timer (on/off)
- Sleep Mode
- Optional Wi-Fi Control
- Built in dry contact
- IDU compatible with Multi F
- ECM (Electronically Commutated Motor) fan provides constant airflow regardless of permitted ESP (External Static Pressure)

Required Accessories (sold separately):

Controller (Any LG wired remote controller)

Optional Accessories:

- | | |
|--|--|
| <input type="checkbox"/> MultiSITE™ CRC1 - PREMTBVC0 | <input type="checkbox"/> Drain Pan Heater - PQSH1200 |
| <input type="checkbox"/> MultiSITE CRC1+ - PREMTBVC1 | <input type="checkbox"/> Dry Contact - PDRYCB320 |
| <input type="checkbox"/> MultiSITE Comm. Mgr. - PBACNBTR0A | <input checked="" type="checkbox"/> Low Ambient Wind Baffle (cooling operation to -4°F) - ZLABGP04A ⁹ |
| <input type="checkbox"/> AC Smart 5 - PACS5A000 | <input type="checkbox"/> Electric Heater 3kW - ANEH033B1 ¹³ |
| <input type="checkbox"/> ACP 5 - PACP5A000 | <input type="checkbox"/> PI-485 Control Board - PMNFP14A1 |
| <input type="checkbox"/> Simple Controller - PREMTCC00U | <input type="checkbox"/> Downflow Conversion Kit - PNDFJ0 |
| <input type="checkbox"/> Wi-Fi module - PWFMD200 | <input checked="" type="checkbox"/> Standard III Remote Controller - PREMTB100 |
| <input type="checkbox"/> Remote Temperature Sensor - ZRTBS01 | |
| <input type="checkbox"/> Aux Heater Relay Kit - PRARH1 | |

For a complete list of available accessories, contact your LG representative.
For continual product development, LG reserves the right to change specifications without notice.
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Operating Range:

Cooling to -4°F with wind baffles (see accessories list)

Outdoor Unit:

Cooling (°F DB)	5 to 118
Heating (°F WB)	-4 to 64

Indoor Unit:

Cooling (°F WB)	57 to 77
Heating (°F DB)	59 to 81

System Data:

Refrigerant Type/Control	R410A / EEV
Refrigerant Charge (lbs.)	7.5
ODU Sound Pressure Max (Cool / Heat) ±1 dB(A) ³	52/54
IDU Sound Pressure (H/M/L) ±1 dB(A) ³	44 / 41 / 39
ODU Net / Shipping Weight (lbs.)	198.9 / 223.1
IDU Net / Shipping Weight (lbs.)	122.4 / 134.0

Fan:

ODU / IDU Fan Type	Propeller / Sirocco
Fan Speeds (Fan/Cool/Heat)	3 / 3 / 3
Fan Quantity (ODU + IDU)	2 + 1
Motor/Drive	Electronically Commutated Motor / Direct
Maximum ODU Air Volume (CFM)	1,942 x 2
IDU Air Volume (H/M/L) (CFM)	990 880 / 800
Dehumidification Rate (pts/hr) ¹⁰	5.1
IDU External Static Pressure Operating Range (Min~Default~Max) (in-wg) ¹¹	0.1~ - -0.7

Notes:

1. Acceptable operating voltage: 187V-253V.
2. Piping lengths are equivalent.
3. Sound Pressure levels are tested in an anechoic chamber under ISO Standard 3745.
4. All power/communication cable to be minimum 14 American wire gage (AWG), 4-conductor, stranded, shielded or unshielded wire and must comply with applicable local and national code. If shielded, the wire must be grounded to the chassis at the outdoor unit only.
5. Power wiring cable size must comply with the applicable local and national code.
6. The indoor unit comes with a dry helium charge.
7. This data is rated 0 ft. above sea level, with 25 ft. of refrigerant line and a 0 ft. level difference between outdoor and indoor units.
8. Must follow installation instructions in the applicable LG installation manual.
9. If the optional low ambient wind baffle (ZLABGP04A) is used, one wind baffle is required for each ODU fan.
10. Dehumidification rate is based on high speed airflow.
11. 18k, 24k, and 36k IDU units have ECM fan that automatically adjusts throughout the ESP (External Static Pressure) range. Therefore, there is no default ESP value for these units.
12. 18k and 24k Vertical Air Handler Units are supplied with socket adapters for pipe transitions.
13. Electric heater accessory available in 3kW, 5kW, 8kW, and 10kW capacities. Refer to the engineering manual for details.
14. Controller not included.



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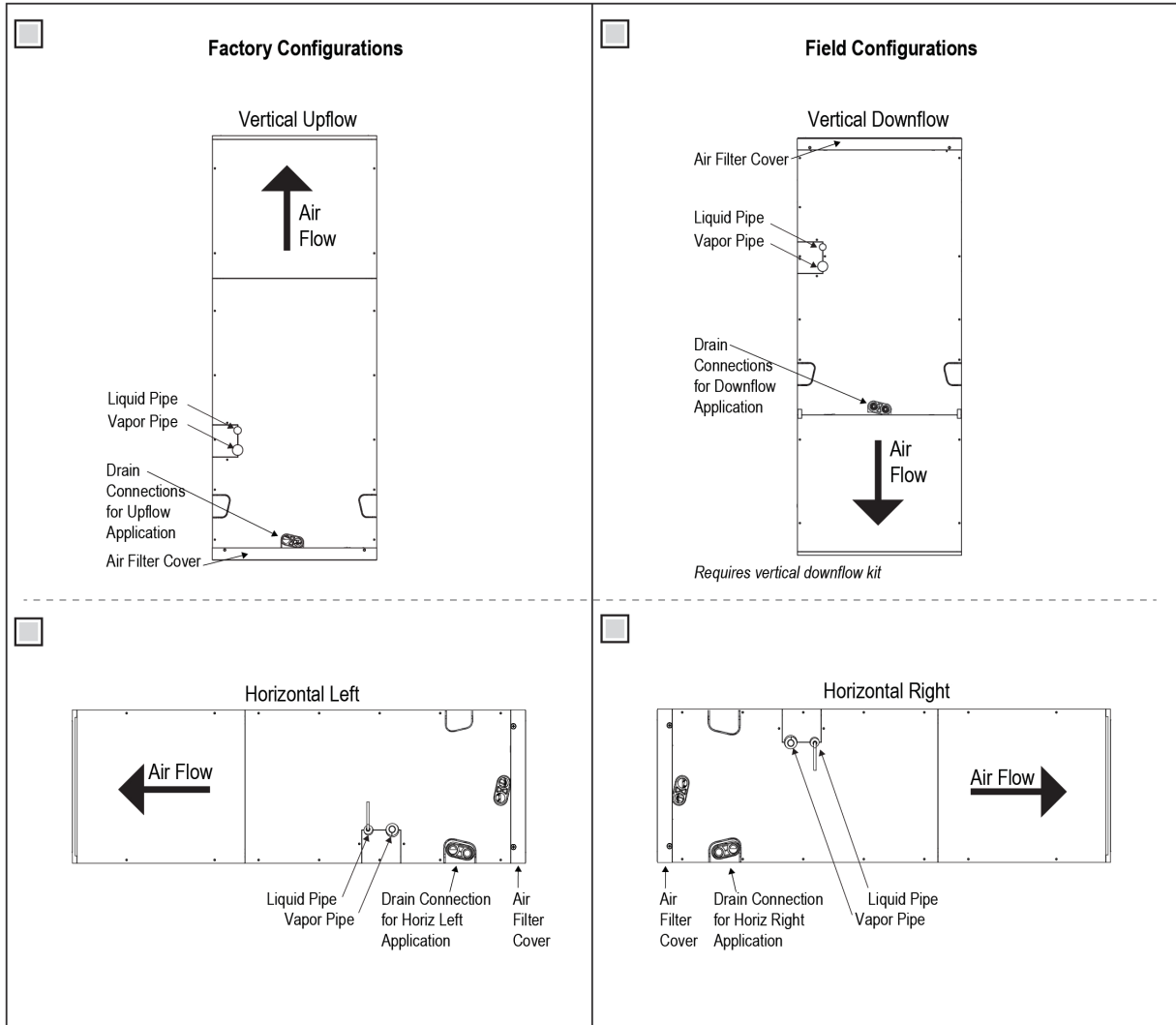
LVN361HV4
Single Zone Vertical Air Handler Unit



Tag No.: _____

Date: _____

PO No.: _____



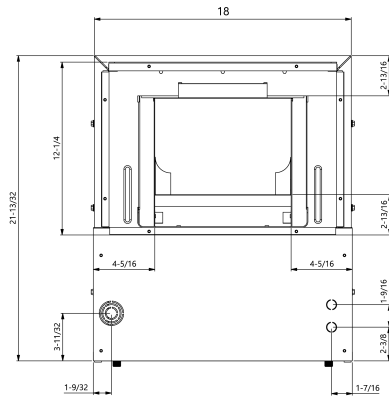
LVN361HV4
Single Zone Vertical Air Handler Unit



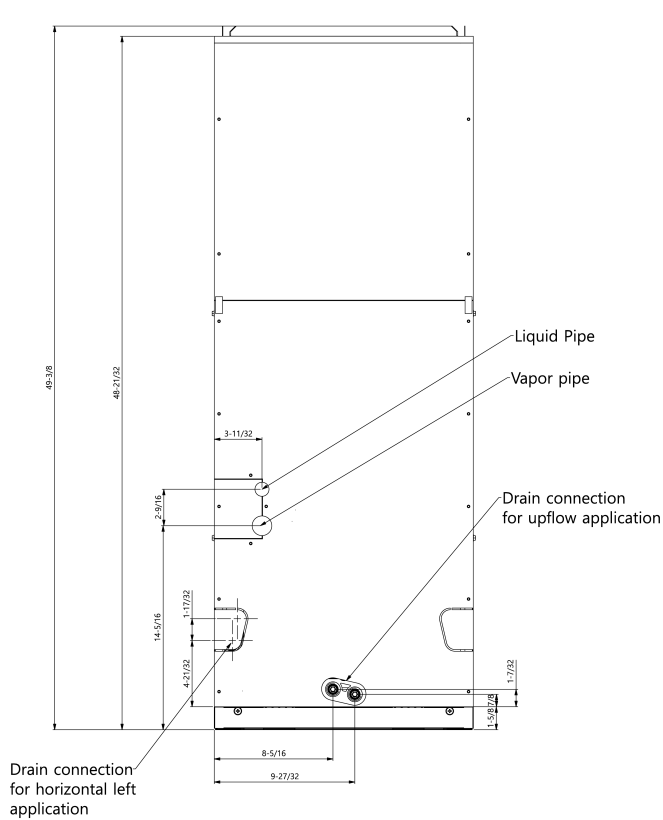
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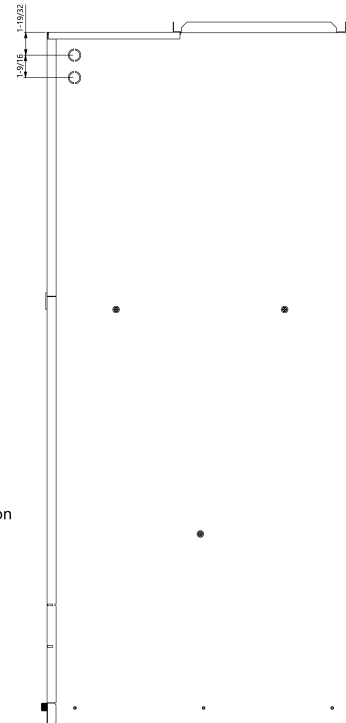
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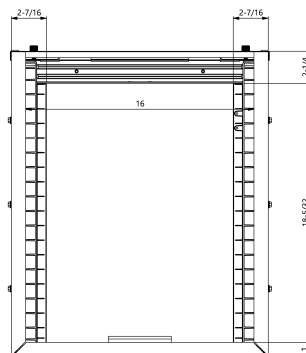
Top View



Front View



Side View



Bottom View

Job Name/Location:

Tag No.:

Date:

For:	File	Resubmit
	Approval	Other_____

PO No.:

Architect: GC:

Engr: Mech:

Rep:

(Company)

(Project Manager)

PREMTB100

LG Standard III Wired Remote Controller



Electrical:

Power Supply	12VDC Power From Indoor Unit
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Operating Environment:

Operating Temperature	32°F ~ 104°F (0°C ~ 40°C)
Storage Temperature	-4°F ~ +140°F (-20°C ~ +60°C)
Humidity	0 ~ 90 % (RH)

Unit Data:

Dimensions	4-3/4" W x 4-3/4" H x 5/8" D
Mum Number of Indoor Units (per controller)	16
Maximum Number of Controllers (per Indoor Unit)	2

Standard Features:

- 4-5/16" Color Display
- Touch Button
- Time Display
- Operation On / Off Status LED

Basic Functions:

- Room Temperature and Humidity Sensing and Display
- Operation - On / Off
- Mode - Auto / Cool / Dry / Heat / Fan Only
- Ventilation Mode (For Ventilator Unit)
- Occupied Cooling and Heating Temperature Setpoint
- Unoccupied Cooling and Heating Setback Temperature Setpoint
- Fan Speed - Auto / Low / Med / High
- Discharge Vanes - Auto / Swing / Fixed
- Controller Lock Function
- Static Pressure Installer Setting
- Error Code Display During Unit or System Malfunction
- Auto Restart on Power Failure
- Manual Central Control Addressing

Advanced Functions:

- Time of Day Scheduling, Five (5) Events per Day with Control of Occupied / Unoccupied, On / Off, Mode, Setpoints, and Fan Speed
- Two Setpoint Autochangeover (For Heat Recovery Systems)
- Minimum Difference between Setpoints (0 ~ 10°) Adjustable Dead-band
- Home Leave Function for Temporary Unoccupied Status
- Sub-function Setting
- Comfort Level Display
- External Equipment Control via One (1) Digital Output
- Filter Sign Check and Initialization
- Time Limit Control (30 minutes ~ 540 minutes, 30 minute units)
- AP Mode Setting for LG Wi-Fi Modem Installation

Optional Accessories (Sold Separately):

- PZCWR1 - 33-foot Extension Cable Assembly
- PZCWRG3 - Group Control Cable Kit

Must follow installation instructions in the applicable LG installation manual.
 For continual product development, LG reserves the right to change specifications without notice.
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Connectivity:

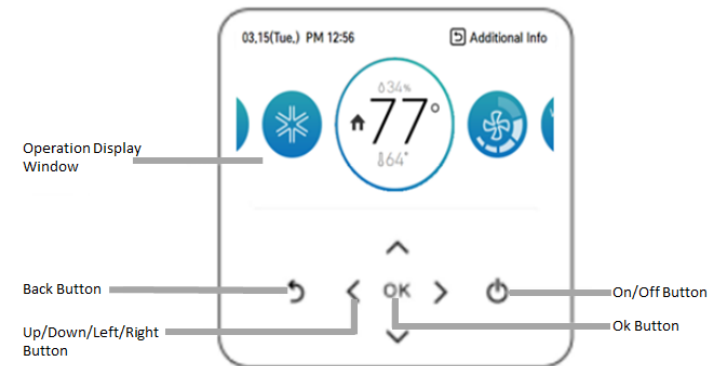
LG Communications	1 Channel for V-Net, Wi-Fi with ThinQ Capability
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Communications Cable Specifications (V-Net):

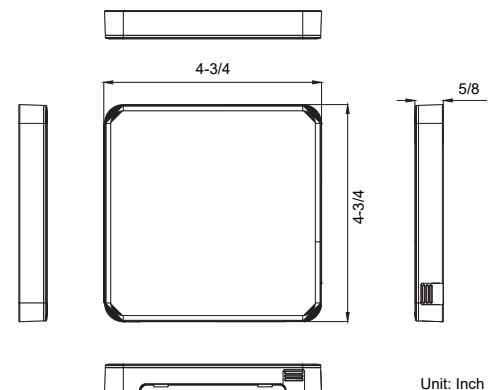
Type	Three (3) Conductor (Red: 12V, Yellow: Signal, Black: GND), Stranded, Twisted, Unshielded
Size	AWG 22-3
Length ²	Up to 164 feet

AWG - American Wire Gauge

Controller Screen and Buttons:



Dimensions:



Notes:

1. Available functions / features may differ based on connected system.
2. Communication cable can be extended to a maximum of 164 feet, between controller and indoor unit, by using field-supplied wire or the Wired Remote Group Control Cable Assembly (PZCWRG3) or Wired Remote Extension Cable (PZWR1), maximum of four (4).
3. Must follow installation instructions in the applicable LG installation manual.
4. Centralized controller (AC Smart / ACP Series) and Premium PDI are required for energy target display function.

MECHANICAL SPECIFICATIONS

Casing

The unit is designed to operate in vertical up flow, down flow (requires conversion kit sold separately), horizontal left, and horizontal right configurations.

Supply air exits from the top and return air enters from the bottom for a vertical up flow configuration. Return air opening is from the top for the vertical down flow configuration. Return air opening is from right end or left end when in horizontal configuration.

The airflow circulation of the supply air and return air is reversed in a vertical down flow configuration. Return air plenum sub-base is to be field provided. Supply air opening has a male flange for duct connection.

The unit case is made of 22-gauge coated metal and the external surfaces are finished with a high gloss baked enamel finish. Finish color is "morning fog" (medium beige). Cold surfaces are galvanized steel.

The cold surfaces of the case are internally insulated with ½ inch foil faced, polystyrene fiber insulation. The inside surface of the fan assembly door access panel is treated with ½ inch polystyrene fiber insulation, encapsulated on both sides, and sealed along the edges with a reinforced foil-faced covering to prevent deterioration caused by panel removal.

All access panels are provided with gasket seals to minimize air leakage. The unit case is designed to accept an internal, optional, LG electric strip heater. The unit bears the CSA label. Unit breaker, fuses, and / or disconnect are provided by others.

Fan Assembly and Control

The indoor unit has an integral fan assembly consisting of a galvanized steel housing and a forward-curved fan wheel. The direct drive fan/motor assembly is mounted on rubber grommets isolating the rotating assembly from the fan housing.

The NJ (18K, 24K, and 36K) chassis is equipped with factory programmed ECM (Electronically Commutated Motor) to deliver constant CFM regardless of external static pressure. The fan motor for NK (42K and 48K) is equipped with a Brushless Digitally-Controlled design (BLDC) fan motor, having permanently lubricated and sealed ball bearings. The fan motor includes thermal, overcurrent and low RPM protection.

The fan/motor assembly is mounted on vibration attenuating rubber grommets. The fan impeller is statically and dynamically balanced. Fan speed of NK chassis is controlled using a microprocessor-based direct digital control algorithm that provides a minimum of a high fan speed in cooling thermal ON and low fan speed in cooling thermal OFF, high fan speed in heating thermal ON and fan off in heating thermal OFF.

The fan speeds can be field adjusted between low, medium, and high speeds. DIP switch settings will allow the fan to run constantly during defrost or oil return modes.

No setting is required for NJ chassis; fan speed changes automatically to maintain programmed air flow settings as the static pressure changes. Each setting for NK chassis can be field adjusted from the factory setting (RPM/ESP).

Being a Constant Air Volume (CAV) unit, the NJ (18k, 24K, 36K) chassis does not require any field adjustment to change the ESP settings. The NK (42K and 48K) chassis comes with factory setting that provides delivery of air volume against an external static pressure of up to 0.9" in-wg.

Air Filter

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

Optional Auxiliary Electric Heat Module(s)

LG optional electric heat modules are designed for field installation in the reheat position. The electric heat module is provided with heating elements, contactors, relays, high temperature safety switch, and interconnecting control wiring harness with a quick connect plug for easy connection to the unit control board. Auxiliary heat modules are available in nominal capacities of 3, 5, 8, 10, 15, and 20 kW.

The NJ chassis is compatible with 3,5,8,10 kW auxiliary electric heater and the NK chassis is compatible with 3,5,8,10,15,20 kW auxiliary electric heater.

Heating elements are powered from a field provided separate power source. 3kW through 10 kW modules are powered from a single power wire. The 15kW and 20 kW modules are powered from two power wires. Heating module breakers, fuses, and / or disconnects are to be field provided.

The optional electric heater when used with the provided simple controller or a 3rd party thermostat (via dry contact connection), will have automatic heating operation based on the internal logic. If manual heater operation is intended, an LG Programmable controller is required.

Microprocessor Control

The indoor unit is provided with an integrated control panel with built-in dry contact to communicate with the outdoor unit. All unit operation parameters are stored in non-volatile memory resident on the unit microprocessor. The microprocessor controls space temperature through using the value provided by temperature sensors within the indoor unit. A field-supplied communication cable must be installed to connect the indoor unit(s) to the outdoor unit.

MECHANICAL SPECIFICATIONS

Compressors

The 9,000 ~ 24,000, as well as the 42,000 and the 48,000 Btu/h outdoor units are equipped with one hermetically sealed, digitally controlled, inverter-driven twin rotary compressor to modulate capacity (modulation in 1 Hz increments).

The 36,000 Btu/h outdoor unit is equipped with one hermetically sealed, digitally controlled, inverter-driven scroll compressor to modulate capacity (modulation in 1 Hz increments).

Teflon coated bearings, overcurrent protection, and vibration isolation are integrated with the compressor.

Frequency ranges for the 18,000 ~ 24,000 Btu/h outdoor units are:

18 Btu/h = 15 to 80 Hz Cooling; 15 to 100 Hz Heating

24k Btu/h = 15 to 80 Hz Cooling; 15 to 100 Hz Heating

Frequency ranges for the 36,000 and 42,000 Btu/h outdoor units are:

36k Btu/h = 15 to 120 Hz Cooling; 15 to 130 Hz Heating

42k Btu/h = 20 to 100 Hz

48K Btu/h = 20 to 100 Hz

Controls

An LG wired controller can be used with the indoor unit, but is sold separately. Communication cable from the outdoor unit to the indoor unit must be a minimum of 14 AWG, four (4) conductor, shielded or unshielded (if shielded, must be grounded to chassis at ODU only) and must comply with applicable local and national codes.

The indoor unit has a built-in dry contact for a field supplied 3rd party thermostat. An optional Wi-Fi module is available as an additional accessory for use with LG's SmartThinQ app on a smart device.

Condensate

The unit is designed for gravity draining of condensate.

Condensate Drain Pan

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

Coil

The indoor unit coil is constructed with grooved design copper tubes with slit coil fins, 3 rows, 18 fins per inch. For 18k and 24k units, there are 2 rows; for 36k, 42k, and 48k units, there are 3 rows. There are 18 fins per inch for all units.

Outdoor Unit

Heat pump outdoor unit coils are made of nonferrous louvered aluminum fins protected with an integral coil guard. The coil for each outdoor unit has a minimum of 14 fins per inch (FPI); heat exchanger has two rows. The coil fins have a factory applied corrosion resistant GoldFin™ material with hydrophilic coating tested in accordance with ASTM B-117 salt spray test procedure for a minimum of 1,000 hours. Coils are factory tested to a pressure of 551 psig.

Controls Features

- Inverter (Variable speed fan)
- Child lock function
- Auto changeover
- Auto restart operation
- Dehumidifying function
- Two thermistor control
- Group control
- External static pressure control
- Self-diagnostics function

Vertical Down Flow Configuration

NJ and NK frames come factory configured for vertical up flow. Down flow configuration requires a conversion kit sold separately (model numbers: PNDFJ0 for NJ frame and PNDFK0 for NK frame). The kit contains support brackets for the evaporator coil/drain pan subassembly, addition screws, and a replace front panel to accommodate the coil and drain connections for down flow configuration.

Figure 3: Vertical Air Handler Unit System (LV181HV4, LV241HV4)

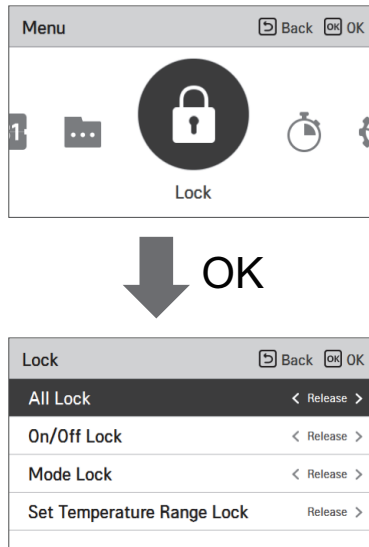


Excerpt from owner's manual of remote controller detailing how to initiate "mode lock" to prevent user from accidentally being switched to heating mode.

LOCK SETTING

How to enter lock setting

- In the menu screen, press [<, > (left/right)] button to select "lock setting" category, and press [OK] button to move to the lock setting list screen.
- In the lock setting list, if you press [^, v (up/down)] button, you can turn on/off the corresponding lock function.



Lock setting – all, on/off, mode, temperature range lock

- It is the function to lock the button operation of the remote controller so that children or other persons cannot use it without permission.
- It is the function to limit the desired temperature range that can be set in the wired remote controller.

Lock	Description
All lock	It locks all button operation of the remote controller.
On/Off lock	It locks the On/Off button operation of the remote controller.
Mode lock	It locks the operation mode button operation of the remote controller.
Temperature range lock	It is the function that can limit the range of the desired temperature that can be set in the wired remote controller. - Single: Lower limit : 16~30 °C (60~86 °F) Upper limit : 16/18~30 °C (60/64~86 °F) - Dual : Cooling : 50~99 °F (10~37.5 °C) Heating : 40~90 °F (4~32 °C)

! NOTE

In the central controller, when the central control temperature range lock is set, the wired remote controller's temperature lock setting is cleared.

The temperature change by external equipment is reflected regardless of the remote controller temperature range lock.

VCMX



VCMX-20ULS



VCMX-20ULST



VCMX-20UL



VCMX-20ULS-C



Applications

- Designed for automatic collection and removal of condensate from air conditioning, refrigeration and dehumidification equipment when gravity drainage is not possible or practical. Also suitable for high efficiency oil and gas-fired condensing furnace and condensing boiler equipment.

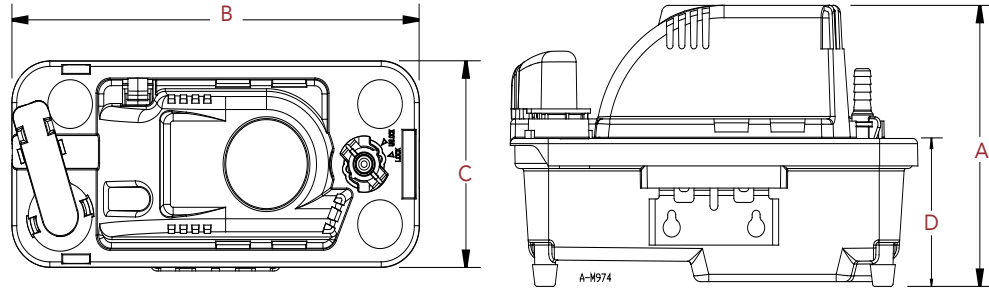
Features

- External test/run lever
- Slim footprint
- Vertical centrifugal pump design
- Automatic start and stop operation
- Galvanized steel "quick install" wall mount bracket
- Some models equipped with external, float activated switch for automatic high level water detection (safety overflow switch)
- For models with safety overflow switch: dual function NO and NC operation (set to NO from factory for equipment shut down connection)
- Models equipped with safety overflow switch include two 5" switch lead wires
- 3/8" O.D. barbed ¼-turn quick release, locking discharge adapter with built-in check valve
- Rubber feet for vibration/noise dampening
- "Anti-sweat" tank sleeve included on select models and available separately for all others
- 3 - 1-1/8" diameter inlet openings, two fitted with removable cap plug (3 + 1 inlet openings for models without safety overflow switch)
- Recessed tank sump
- Oil resistant tank and check valve
- Thermally protected, fan cooled motor
- Maximum water temperature: 140 °F
- 6', 3-conductor cable with grounded 3-prong plug
- Some models include 20' x 3/8" I.D. vinyl discharge tubing

Construction

- Housing/tank cover — ABS
- Motor cover — ABS
- Volute — ABS
- Tank — Polypropylene
- Impeller — Polypropylene
- Switch float — ABS
- Check valve — Acetal

Engineering Data



Dimensions

Model No.	DIM "A"	DIM "B"	DIM "C"	DIM "D"
VCMX-20UL	6.5" (165.1mm)	10.2" (259.1 mm)	4.8" (121.9 mm)	3.4" (86.4 mm)
VCMX-20ULS	6.5" (165.1mm)	10.2" (259.1 mm)	4.8" (121.9 mm)	3.4" (86.4 mm)
VCMX-20ULST	6.5" (165.1mm)	10.2" (259.1 mm)	4.8" (121.9 mm)	3.4" (86.4 mm)
VCMX-20ULS-C	6.8" (172.7mm)	10.3" (261.6 mm)	5.1" (129.5 mm)	3.4" (86.4 mm)

Specifications

NXTGen™

Model No.	Item No.	Volts	Hz	Amps	Watts	Check Valve	Safety Switch	Performance (GPH @ Head)					Shutoff (ft)	PSI	Cord	Weight (lbs)
								1'	5'	10'	15'	20'				
554520	VCMX-20UL	115	60	1.5	93	3/8"	No	84	75	60	42	10	21	9.1	6'	5.5
554521	VCMX-20UL	230	50/60	0.6/0.5	75	3/8"	No	78	67	51	29	0	19	9.1	6'	5.5
554530	VCMX-20ULS	115	60	1.5	93	3/8"	Yes	84	75	60	42	10	21	9.1	6'	5.5
554531	VCMX-20ULS	230	50/60	0.6/0.5	75	3/8"	Yes	78	67	51	29	0	19	9.1	6'	5.5

NXTGen™ with tubing

Model No.	Item No.	Volts	Hz	Amps	Watts	Check Valve	Safety Switch	Performance (GPH @ Head)					Shutoff (ft)	PSI	Cord	Weight (lbs)
								1'	5'	10'	15'	20'				
554550	VCMX-20ULST	115	60	1.5	93	3/8"	Yes	84	75	60	42	10	21	9.1	6'	5.5
554551	VCMX-20ULST	230	50/60	0.5	75	3/8"	Yes	80	69	54	36	0	20	9.1	6'	5.5

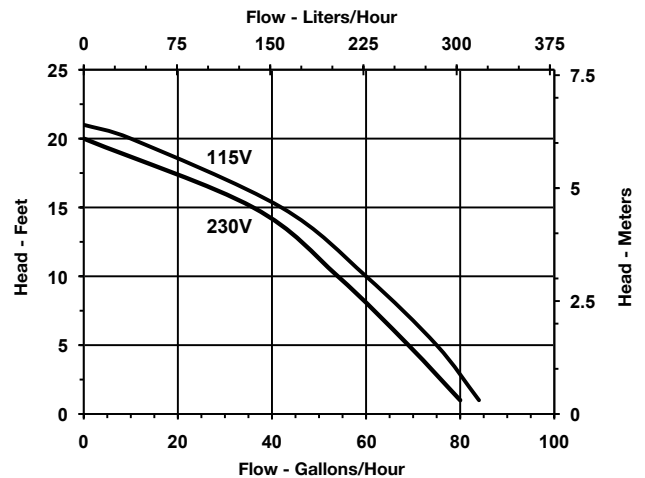
NXTGen™ with Anti-Sweat Sleeve

Model No.	Item No.	Volts	Hz	Amps	Watts	Check Valve	Safety Switch	Performance (GPH @ Head)					Shutoff (ft)	PSI	Cord	Weight (lbs)
								1'	5'	10'	15'	20'				
554542	VCMX-20ULS-C	115	60	1.5	93	3/8"	Yes	84	75	60	42	10	21	9.1	6'	5.5

Replacement Parts

Item	Part Number
Tank	154390
Feet, rubber (4 pack 554520, 554530, 554550, 554551, 554521, 554531)	925047
Cover, motor	154425
Float arm assembly	154460
Check valve, 3/8"	154724
Safety switch assembly (554530, 554550, 554551, 554542, 554531)	599136
Anti-sweat sleeve and Bracket (554542)	599138
Bracket, tank (554520, 554530, 554550, 554551, 554521, 554531)	154483

Performance Data



P.O. Box 12010
 Oklahoma City, OK 73157-2010
 Phone: 1.800.701.7894
 Fax: 1.800.678.7867
 www.LittleGiantPump.com

Equipment Release Approval Form

Product Type: Mini-Split Systems

Unit Tags: CU-02/AH-02 & CU-04/AH-04

The following table must be completed prior to releasing the equipment for fabrication. Please initial the column indicating the information contained in this submittal has been verified, or indicate to refer to a marked-up page.

SUBMITTAL VERIFICATION	
	Purchaser Initials
Unit quantities and tag designations are correct.	
Equipment dimensions (length, width, and height) and weights have been verified to comply with jobsite conditions and rigging requirements.	
Electrical voltage and electrical connections are compatible with jobsite requirements.	
Unit handing/orientation is suitable for installation based on mechanical system and jobsite spatial constraints. This includes (but is not limited to) unit piping/ductwork connections and enclosure/access door locations.	

Important Notes:

- 1) Actual fabrication release cannot commence until this form is signed by the customer and returned to JCI along with a release notification want date and ship to address.
- 2) Equipment "lead-time" does not start until confirmed release documentation is received, and the order is actually released to the factory.
- 3) Modifications to equipment configurations after fabrication release may impact cost and lead-time.

4) Attached configurations are as shown in the approved equipment submittals or as defined in superseding customer correspondence.

5) Note that once this document is confirmed, the equipment configurations defined by this document take precedence over all other documents.

6) "Want date" and/or "ship to address" changes made after this document is confirmed may impact cost and lead-time.

Please fill out the following table and refer to the receiving/rigging instructions in this submittal to help ensure a smooth delivery and installation of the equipment.

DELIVERY INFORMATION	
	Please fill out information below
Contact name for coordinating delivery of equipment with transportation company:	
Contact phone number:	
Advance notice required from transportation company prior to delivering equipment (typically 48 hours):	
Ship to address:	
Other special shipping instructions or requirements:	

CUSTOMER APPROVAL:

Customer Name: _____

Signature (*) _____

Date: _____