



Ventura County Community College District

PURCHASING DEPARTMENT

DATE: May 16th, 2025
TO: All Bidders
FROM: David Cienfuegos, Purchasing Specialist
SUBJECT: Addendum 1 – Bid 710 Moorpark College Police Station HVAC Repair

This addendum is hereby made part of the Contract Documents to the same extent as though it was originally included therein and takes precedence over the original documents. The outdated pages must be replaced with any updated and/or changed pages when submitting your bid. Acknowledge receipt of all addenda on the Bid Form.

The bid opening remains on **Tuesday, May 20th, 2025**. Bids must be received no later than **3:00 p.m.** at 761 E Daily Drive, Suite 200, Camarillo, CA 93010. Properly mark the outside of the exterior envelope on your submitted bid with the Bid Number and Name according to the requirements stated in the bid packet directions.

If you choose not to participate in this particular bid, please sign the Bid Proposal stating “no bid” and email or fax it back to me at 805-652-7700.

It is the responsibility of the Bidder to verify that their proposal has been received by the VCCCD Purchasing Department prior to the opening date. Verification of receipt can be made through the listed Purchasing Specialist.

Attached please find additional mechanical drawings and equipment list for Bid 710 Moorpark College Police Station HVAC Repair.

The following information answers questions asked at the job walk and via email request. The deadline for questions was Tuesday, May 13th, 2025. No further questions will be accepted.

1. How long has this unit been having compressor failures / issues?
a. Many years.
2. What is the model and serial # for the existing condensing unit?
a. Model Number ARUB121BT3
3. Can we get a copy of the existing mechanical drawings / equipment list.
a. Please see the drawings/list attached to this addendum.
4. Please specify for section 230501 item 12, where can I find the specs for the points list?
 - a. System On Off Scheduling and Status
 - b. Compressor Operation and Mode
 - c. Run Time Hours
 - d. High Pressure
 - e. Low Pressure
 - f. Compressor Suction Temp
 - g. Heat Exchanger Temp
 - h. Air Temperature



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- i. Global setpoints for indoor unit's heat and cool upper and lower temps
5. Who is the vendor for the existing controllers? Can we get contact information?
 - a. Sunbelt is the vendor for the existing controllers.
 - b. Contact info: Jess Lamas, (626) 610-2340x3128 Work, (818) 244-6571x2222 Work, (818) 730-5734 Mobile, jlamas@sunbeltcontrols.com. 6265 San Fernando Road, Glendale, CA 91201.
6. Is contractor required to perform new test and balance?
 - a. No test and balance required. All indoor units and outdoor units shall be function tested in all modes.
7. Is the larger unit to be changed?
 - a. Yes, larger unit to be changed.
8. Is the only access from the top of the parking lot?
 - a. Contractor can access the units via ladder on the side of the building.
9. Is the amperage the same for electrical?
 - a. Replace existing disconnect with new 60 amp Square D Fused NEMA 3R Disconnect with Bussman Fuses. Connect to existing power supply. Install and connect three new #8 THHN plus #8 ground in weather-tight flex conduit from new disconnect to new unit. Installation per 2022. California Electric Code.
 - b. Existing unit MCA 44 MOCP 60. New Unit MCA 31 MOCP 40.
10. What is the tonnage of the unit?
 - a. Check specs. 10 tons nominal.
11. Current unit does not function?
 - a. No, the current unit is nonfunctional.
12. 3 Pipe or 2 Pipe?
 - a. 3 Pipe.

End of Section



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MECHANICAL NOTES

1. SCOPE OF WORK: WORK INCLUDES THE FOLLOWING: FURNISH AND INSTALL ALL EQUIPMENT AND CONTROLS SHOWN ON THE ARCHITECTURAL, MECHANICAL, AND PLUMBING DRAWINGS AND DESCRIBED IN THESE NOTES, THE BOOK SPECIFICATIONS AND THE CONTRACT DOCUMENTS. WORK INCLUDES BUT IS NOT LIMITED TO: INSTALLATION OF A NEW VARIABLE REFRIGERANT VOLUME SYSTEM WITH MULTIPLE FAN COILS AND EXHAUST SYSTEMS; AND STARTUP AND COMMISSIONING OF NEW COMPLETE MECHANICAL AND CONTROL SYSTEMS AS DESCRIBED IN THE CONTRACT DOCUMENTS. INCLUDED ARE ALL DEVICES NEEDED TO MAKE COMPLETE AND FUNCTIONAL SPACE CONDITIONING SYSTEMS AND CONTROLS. CONTRACTOR SHALL FURNISH AND INSTALL, MAKE OPERABLE, AND TEST ALL SYSTEMS AND MECHANICAL EQUIPMENT SHOWN ON THE PLANS AND DESCRIBED IN THE SPECIFICATIONS AND CONTRACT DOCUMENTS. IN CONNECTION THEREWITH, CONTRACTOR SHALL ALSO FURNISH AND INSTALL ALL NECESSARY DEVICES, HARDWARE, AND SYSTEMS REQUIRED TO MAKE SAID EQUIPMENT PROPERLY AND SAFELY OPERABLE, INCLUDING BUT NOT LIMITED TO, MOUNTING HARDWARE, INSULATION, FILTERS, VIBRATION CONTROL DEVICES, DUCT SYSTEMS, CONTROL SYSTEMS, AND PATCHING AND PAINTING.
2. INTERPRETATION OF DRAWINGS, SPECIFICATIONS OR CONTRACT DOCUMENTS. IF ANY BIDDER IS IN DOUBT AS TO THE TRUE MEANING OF ANY PART OF THE DRAWINGS, THE SPECIFICATIONS OR OTHER PORTIONS OF THE CONTRACT DOCUMENTS; FINDS DISCREPANCIES, ERRORS OR OMISSIONS THEREIN; OR FINDS VARIANCES IN ANY OF THE CONTRACT DOCUMENTS WITH APPLICABLE RULES, REGULATIONS, ORDINANCES AND/OR LAWS, A WRITTEN REQUEST FOR AN INTERPRETATION OR CORRECTION THEREOF MAY BE SUBMITTED TO THE ENGINEER. IT IS THE SOLE AND EXCLUSIVE RESPONSIBILITY OF THE BIDDER TO SUBMIT SUCH REQUEST IN SUFFICIENT TIME FOR THE PREPARATION OF A RESPONSE THERETO AND DELIVERY OF SUCH RESPONSE TO ALL BIDDERS PRIOR TO THE SCHEDULED CLOSING FOR RECEIPT OF BID PROPOSALS. ANY REQUEST OF ANY BIDDER, PURSUANT TO THE FOREGOING SENTENCE THAT IS MADE LESS THAN SEVEN DAYS PRIOR TO THE SCHEDULED CLOSING DATE FOR THE RECEIPT OF BID PROPOSALS SHALL BE DEEMED UNTIMELY. ANY INTERPRETATION OR CORRECTION OF THE CONTRACT DOCUMENTS WILL BE MADE ONLY BY WRITTEN ADDENDUM DULY ISSUED BY THE OWNER OR THE ENGINEER. A COPY OF ANY SUCH ADDENDUM WILL BE MAILED OR OTHERWISE DELIVERED TO EACH BIDDER RECEIVING A SET OF THE CONTRACT DOCUMENTS. NO PERSON IS AUTHORIZED TO RENDER AN ORAL INTERPRETATION OR CORRECTION OF ANY PORTION OF THE CONTRACT DOCUMENTS TO ANY BIDDER, AND NO BIDDER IS AUTHORIZED TO RELY ON ANY SUCH ORAL INTERPRETATION OR CORRECTION. FAILURE TO REQUEST INTERPRETATION OR CLARIFICATION OF THE DRAWINGS, THE SPECIFICATIONS OR OTHER PORTIONS OF THE CONTRACT DOCUMENTS PURSUANT TO THE FOREGOING SHALL BE DEEMED TO BE A WAIVER OF ANY DISCREPANCY, DEFECT, OR CONFLICT THEREIN.
3. DIMENSIONS. ALL DIMENSIONS SHALL HAVE PREFERENCE OVER SCALE. ALL DIMENSIONS SHALL BE VERIFIED IN THE FIELD. ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES BETWEEN ARCHITECTURAL AND ENGINEERING DRAWINGS BEFORE PROCEEDING WITH WORK. IN NO CASE SHALL WORKING DIMENSIONS BE SCALED FROM PLANS, SECTIONS, OR DETAILS ON WORKING DRAWINGS. ALL SIZES OF EQUIPMENT AND MATERIALS SHALL BE VERIFIED WITH EQUIPMENT MANUFACTURER.
4. CODES AND STANDARDS: ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE 2010 CALIFORNIA PLUMBING CODE, THE 2010 CALIFORNIA MECHANICAL CODE, THE 2010 CALIFORNIA BUILDING CODE WITH DSA AMENDMENTS, THE STATE OF CALIFORNIA, AND DSA AMENDMENTS. ALL MECHANICAL EQUIPMENT SHALL BE IN STRICT ACCORDANCE WITH THE EQUIPMENT SCHEDULE, AND SHALL BE NEW AND FREE FROM DEFECTS. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND FEES, AND SHALL OBTAIN APPROVED INSPECTIONS FOR ALL WORK AS REQUIRED BY OWNER, DSA, AND LOCAL JURISDICTION. CONTRACTOR SHALL MAINTAIN IN EFFECT ALL INSURANCE REQUIRED BY STATE LAWS, LOCAL JURISDICTION, AND GENERAL CONTRACTOR / OWNER. WHERE CONFLICT OR VARIATION EXISTS AMONGST CODES, SPECIFICATIONS, OR DRAWINGS, THE MOST STRINGENT SHALL GOVERN.
5. SUBMITTALS REQUIRED: PRIOR TO ORDERING FIXTURES AND MATERIALS, CONTRACTOR SHALL FURNISH SUBMITTALS OF ALL FIXTURES AND MATERIALS PROPOSED FOR USE IN THIS PROJECT. ORDERING OF FIXTURES AND MATERIALS SHALL ONLY PROCEED AFTER SATISFACTORY REVIEW OF ALL SUBMITTALS BY ENGINEER / OWNER. COPIES OF ALL OWNER'S MANUALS, WARRANTIES, AND OTHER WRITTEN INFORMATION REGARDING SYSTEMS SHALL BE SUBMITTED TO OWNER.
6. CONSTRUCTION OBSERVATION: IN ADDITION TO THE REQUIREMENT FOR OBTAINING INSPECTIONS BY THE LOCAL JURISDICTION, CONTRACTOR SHALL NOTIFY ENGINEER AT APPROPRIATE TIMES DURING THE CONSTRUCTION PROCESS SO THAT ENGINEER CAN VISIT SITE TO BECOME GENERALLY FAMILIAR WITH THE PROGRESS AND QUALITY OF CONTRACTOR'S WORK AND TO DETERMINE IF THE WORK IS PROCEEDING IN GENERAL ACCORDANCE WITH THE CONTRACT DOCUMENTS. NOTIFY ENGINEER ONE WEEK PRIOR TO EQUIPMENT START-UP.
7. UNIT LOCATIONS: EQUIPMENT AND SYSTEM LOCATIONS SHOWN ARE APPROXIMATE ONLY. CONTRACTOR SHALL VERIFY LOCATIONS OF ALL STRUCTURAL MEMBERS AND EXISTING CONDITIONS IN THE FIELD, AND LOCATE UNITS AND DUCTWORK TO AVOID INTERFERENCE. ANY SIGNIFICANT DEVIATIONS FROM THE PLANS SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER. ALLOW CLEARANCE FOR DUCTWORK AND PIPING. ALL CLEARANCES REQUIRED BY UNIT MANUFACTURER SHALL BE MAINTAINED. ENTIRE INSTALLATION SHALL BE IN ACCORDANCE WITH CODES AND THE RECOMMENDED INSTALLATION PROCEDURES PUBLISHED BY THE MANUFACTURER.
8. DUCTWORK: CONTRACTOR SHALL INSTALL NEW DUCTWORK IN THE APPROXIMATE LOCATIONS SHOWN ON THE DRAWINGS. ALL DUCTWORK SHALL BE SECURELY ANCHORED TO THE BUILDING IN AN APPROVED MANNER THAT WILL RENDER IT ABSOLUTELY FREE FROM VIBRATION AND LATERAL MOVEMENT. CONTRACTOR SHALL PROVIDE WITHOUT COST TO THE OWNER ALL REQUIRED TRANSITIONS AND OFFSETS TO AVOID CONFLICTS WITH STRUCTURE AND OTHER TRADES.
9. MATERIALS – DUCTWORK: ALL NEW DUCTWORK FOR HVAC SYSTEMS SHALL BE GALVANIZED STEEL CONFORMING TO ASTM SPEC A525.

ALL CONCEALED ROUND DUCTWORK SHALL BE GALVANIZED CONSTRUCTION WITH GAUGES AND CONNECTIONS AS FOLLOWS: UP TO 12" DIAMETER (INCLUDING FITTINGS) – 26 GAUGE WITH 2" CRIMP JOINT. 13"–24" DIAMETER (INCLUDING FITTINGS) – 24 GAUGE WITH 2" CRIMP JOINT. WHERE NECESSARY TO MAKE FIELD CONNECTIONS BETWEEN PLAIN END DUCT, SLIP JOINT CONNECTORS SHALL BE PROVIDED. JOINT CONNECTION AND SEALING: SHEET METAL SCREW ALL FIELD MADE JOINTS WITH A MINIMUM OF THREE SCREWS. SPACING OF SCREWS NOT TO EXCEED TWELVE INCHES ON CENTER. SEAL ALL DUCTWORK JOINTS WITH HARDCAST "IRON-GRIP 601" PREMIUM FLEXIBLE WATER BASED DUCT SEALANT. FITTINGS AT RECTANGULAR DUCT TAKEOFF SHALL BE SPIN-IN TYPE, COMPLETE WITH LOCKING TYPE VOLUME DAMPERS AS INDICATED ON PLANS & SPECIFICATIONS.

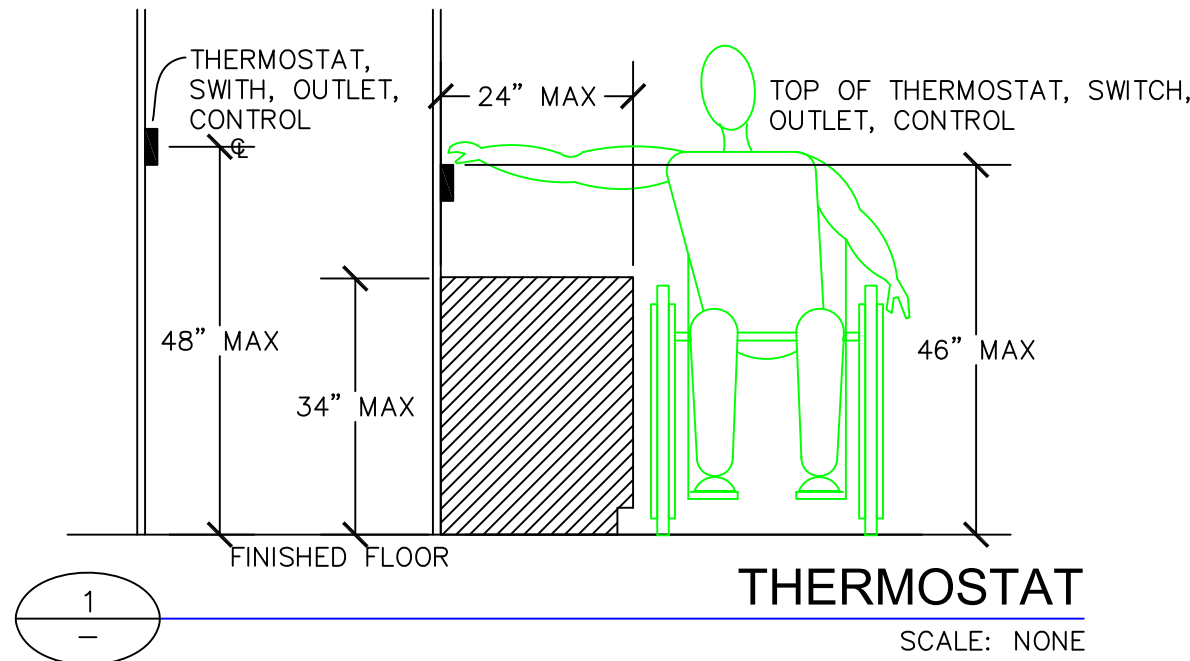
RECTANGULAR DUCTWORK SHALL BE MADE FROM GALVANIZED STEEL SHEETS. DUCT CONSTRUCTION, AND REINFORCING SHALL BE PER TABLES 6–1, 6–2, AND 6–3 OF THE UNIFORM MECHANICAL CODE. DUCTWORK SHALL BE OF THE FOLLOWING GAUGES: UP TO 12" – 26 GAUGE. 13"–30" – 24 GAUGE. CURVED ELBOWS SHALL HAVE CENTRALIZE RADIUS NOT LESS THAN THE WIDTH OF THE DUCT. WHERE ABRUPT TURNS AND ELBOWS ARE USED, TURNING VANES SHALL BE PROVIDED. TAKE-OFFS FROM MAIN DUCTS SHALL BE MADE WITH 45 DEGREE

ANGLES WITH VOLUME DAMPERS WHERE SHOWN. ALL PANELS SHALL BE CROSS BROKEN TO ENSURE RIGIDITY.

10. DUCT INSULATION: CONCEALED SUPPLY AND RETURN DUCTWORK SHALL BE INSULATED WITH 2" THICK, THREE QUARTER POUND PER CUBIC FOOT FOIL SCRIMP VAPOR BARRIER FACED FIBERGLASS FLEXIBLE DUCT INSULATION. INSULATION SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. INSULATION SHALL HAVE A MINIMUM INSULATION OF R–4.2. EXPOSED DUCTS SHALL BE INTERNALLY LINED W/ 1" THICK, THREE QUARTER POUND PER CUBIC FOOT, RESIN COATING, MIN R-VALUE 4.2. ALL SUPPLY & RETURN PLENUMS SHALL BE LINED WITH 2" DUCT LINER. SEE SPECIFICATIONS. UNLESS OTHERWISE NOTED DIMENSIONS SHOWN ARE INTERNAL CLEARANCES. FLAME SPREAD INDEX SHALL NOT EXCEED 25 AND SMOKE DEVELOPED INDEX SHALL NOT EXCEED 50,
11. BALANCING: FOLLOWING INSTALLATION, CONTRACTOR SHALL START UP AND BALANCE ALL HVAC SYSTEMS TO CONFORM TO AIR VOLUMES & FLOWRATES INDICATED ON PLANS. COPIES OF BALANCING RECORDS SHALL BE FURNISHED TO BUILDING OWNER AND PROJECT ARCHITECT. SEE BOOK SPECIFICATIONS FOR FURTHER REQUIREMENTS.
12. DUCT SUPPORTS AND HANGERS: DUCT SUPPORTS SHALL BE PER TABLE 6–5 (PARTS I & II) OF THE 2010 CALIFORNIA MECHANICAL CODE. RECTANGULAR DUCTS WITH A MAXIMUM SIZE NOT EXCEEDING 30" AND ALL ROUND DUCTS SHALL BE SUPPORTED WITH ONE INCH WIDE 18 GAUGE HANGER STRAPS. SUPPORTS SHALL BE LOCATED ON TWO OPPOSITE SIDES OF THE DUCT, SHALL BE METAL SCREWED TO THE SIDES AND BOTTOM OF THE DUCT, SHALL BE SPACED AT NOT MORE THAN 7'–8" ON CENTERS AND SHALL BE LATERALLY BRACED. SECURE STRAPS TO STRUCTURAL FRAMING PER SMACNA STDs.
13. VOLUME DAMPERS: LOCKING SHEET METAL VOLUME DAMPERS SHALL BE INSTALLED AT THE POINT OF TAKE-OFF FROM MAIN DUCTING AT ALL LOCATIONS SHOWN ON PLANS AND ELSEWHERE AS NECESSARY FOR PROPER BALANCING OF THE SYSTEM. BALANCING AT DIFFUSERS OR RETURN AIR GRILLES ONLY WILL NOT BE PERMITTED. INSTALL JR SMITH LOCKING ACCESS DOORS OR REMOTE DAMPER CONTROL, (YOUNG REGULATOR).
14. EXHAUST FAN AND FLUE DISCHARGE: ALL EXHAUST FAN DUCTWORK AND FLUES SHALL BE RUN TO A POINT AT LEAST 10 FEET FROM AIR INTAKES OR OTHER OPENINGS TO THE BUILDING.
15. COORDINATION: MECHANICAL CONTRACTOR SHALL COORDINATE WORK WITH GENERAL CONTRACTOR AND ALL RELATED TRADES. COORDINATION OF EXACT LOCATIONS AND ELEVATIONS TO AVOID CONFLICTS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
16. CLEANUP: EVERY DAY, AND AFTER ALL WORK HAS BEEN COMPLETED, CONTRACTOR SHALL CLEAN ENTIRE JOB-SITE OF ALL DEBRIS ASSOCIATED WITH MECHANICAL SYSTEMS. EXPOSED PARTS WHICH ARE TO BE PAINTED SHALL BE THOROUGHLY CLEANED READY FOR PAINTING.
17. WIRING: ALL WIRING SHALL BE PERFORMED IN ACCORDANCE WITH CEC REQTS. ALL WIRING SHALL BE IN CONDUIT. ALL INTERIOR LOW VOLTAGE AND CONTROL WIRING SHALL BE IN WIREMOLD AND IN FAN ROOMS SHALL BE IN CONDUIT. EXPOSED CONDUIT SHALL BE INSTALLED IN A SQUARE, PLUMB, AND LEVEL MANNER WITH THOUGHT GIVEN TO THE FINAL APPEARANCES. PROVIDE TO ENGINEER SHOP DRAWING FOR CONTROL TRANSFORMER CONFIGURATIONS DETAILING CIRCUITS TO BE USED, LOAD CALCULATIONS, WIRE SIZES, AND LOCATIONS. WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT CALIFORNIA ELECTRICAL CODE AND ELECTRICAL SPECIFICATIONS. ALL TRANSFORMERS SHALL BE PROTECTED BY PROPERLY SIZED CIRCUIT BREAKER OR FUSE(S). ALL TRANSFORMERS SHALL HAVE RESETABLE BREAKER ON THE LOAD SIDE. ALL LOW VOLTAGE CONTROL & COMMUNICATIONS WIRING SHALL BE DONE ACCORDING TO MANUFACTURERS INSTALLATION MANUAL. PROVIDE SUBMITTALS ON WIRE AND ENCLOSURES.
18. COORDINATION DURING CONSTRUCTION: THE CONTRACTOR SHALL COORDINATE ANY NECESSARY CHANGES IN WORK SCHEDULING WITH THE OWNER TO MINIMIZE THE DISRUPTION. THE CONTRACTOR SHALL COORDINATE WITH OTHER TRADES. THE CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY HIS WORK TO BUILDING(S) AND EQUIPMENT AT NO ADDITIONAL COST TO THE OWNER.
19. CORRECTION OF WORK: THE CONTRACTOR SHALL PROMPTLY CORRECT ALL WORK THE DISTRICT FINDS DEFECTIVE OR FAILING TO CONFORM TO THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BEAR ALL COSTS REQUIRED BY THE CONTRACT DOCUMENTS. IF ANY OF THE WORK IS FOUND TO BE DEFECTIVE OR NOT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL CORRECT IT PROMPTLY AFTER RECEIPT OF A WRITTEN NOTICE FROM THE DISTRICT TO DO SO.
20. AS-BUILT DRAWINGS SHALL BE GIVEN TO THE OWNER PRIOR TO ACCEPTANCE OF THE PROJECT. INCLUDED IN THE AS-BUILTS SHALL BE ON PRINTED SHEETS AND ON MAGNETIC MEDIA.
21. REFRIGERANT SYSTEMS: INSTALL PER MANUFACTURER'S REQUIREMENTS WITH ALL NEEDED MATERIALS AND EQUIPMENT FOR A COMPLETE WORKING SYSTEM. INSTALL COPPER ACR PIPING WITH BRAZED CONNECTIONS STRAIGHT AND TRUE IN A NEAT & WORKMANLIKE MANNER PROPERLY SUPPORT WITH ISOLATED STRUT CLAMPS. INSULATE ALL REFRIGERANT PIPING PER MANUFACTURER'S REQUIREMENTS. PROVIDE SHOP DRAWINGS OF CONTROLS AND PIPING FOR REVIEW PRIOR TO INSTALLATION. EXTERIOR INSULATION SHALL BE COVERED WITH ALUMINUM JACKETING WITH FORMED ALUMINUM FITTINGS.

THE CITY MULTI SYSTEM SHALL HAVE FACTORY START-UP. SUBMIT REPORT FOR REVIEW.

22. THERMOSTAT. ALL THERMOSTAT AND OTHER LOW-VOLTAGE WIRING SHALL BE INSTALLED IN CONDUIT. VERIFY LOCATION OF THERMOSTAT WITH ENGINEER BEFORE ROUGH-IN. MOUNTING HEIGHT – 48 INCHES AFF.
23. ALL MECHANICAL SYSTEMS SHALL BE CLEARLY & PERMANENTLY LABELED. LABEL SHALL DETAIL THE AREA SERVED & UNIT TAG.





MOORPARK
COLLEGE
PARKING
STRUCTURE

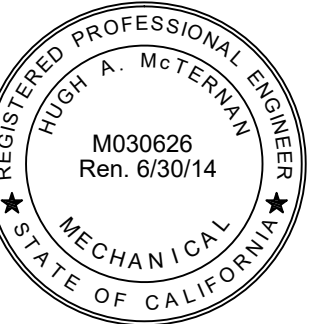
Moorpark, California



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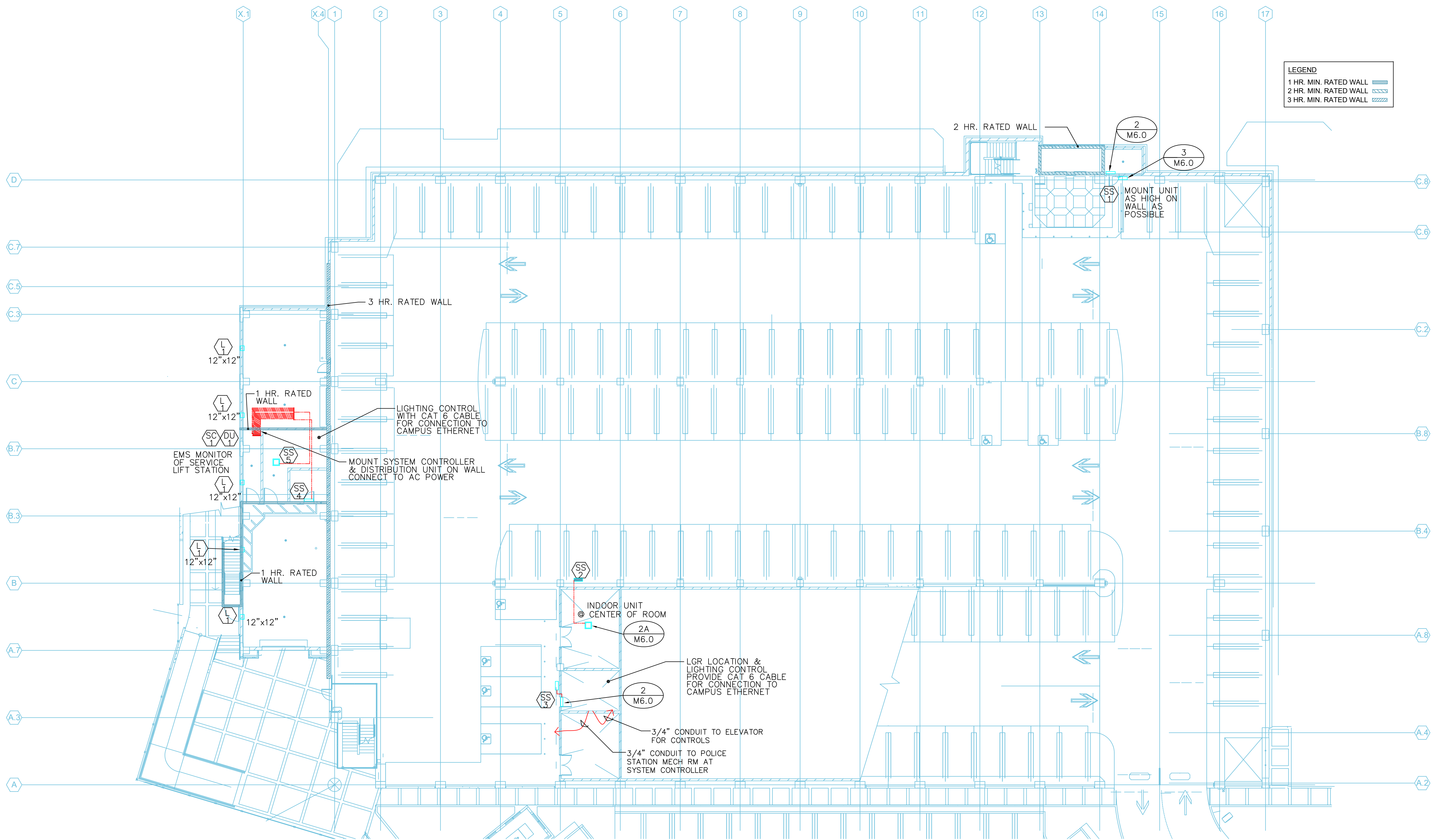
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100% DD	03.14.11
50% CD	05.20.11
DSA PLAN CHECK	07.01.11
PLAN CHECK CORRECTION	04.20.12

Date	04/04/11
IPD Job No.	10-555
Drawn By	
Checked By	
Scale	

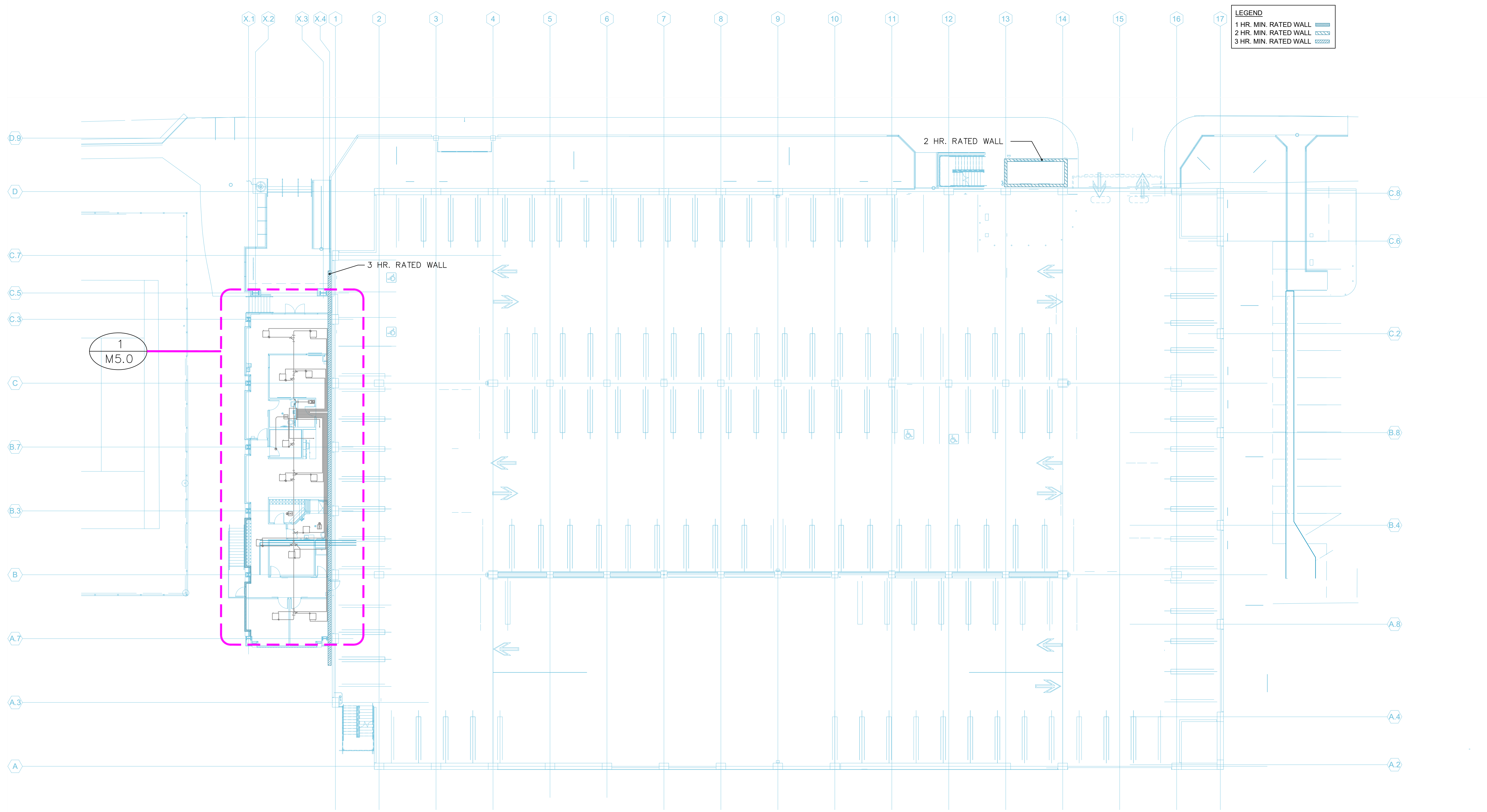
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MECHANICAL
PLAN**

Sheet No.

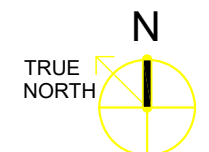
M2.0



1 B 1 LEVEL MECHANICAL PLAN
1/16" = 1'-0"



① GROUND LEVEL MECHANICAL PLAN
1/16" = 1'-0"



MOORPARK COLLEGE PARKING STRUCTURE

Moorpark, California



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Irvine
Los Angeles

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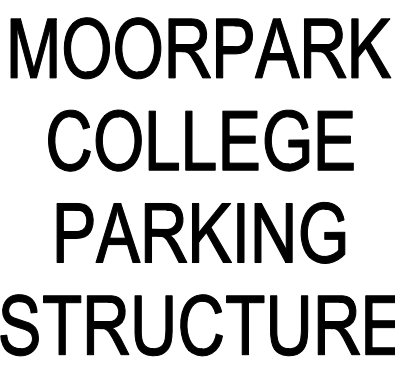
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Date	04/04/11
IPD Job No.	10-555
Drawn By	
Checked By	
Scale	

Sheet Title
**GROUND LEVEL
MECHANICAL
PLAN**

Sheet No.

M3.0

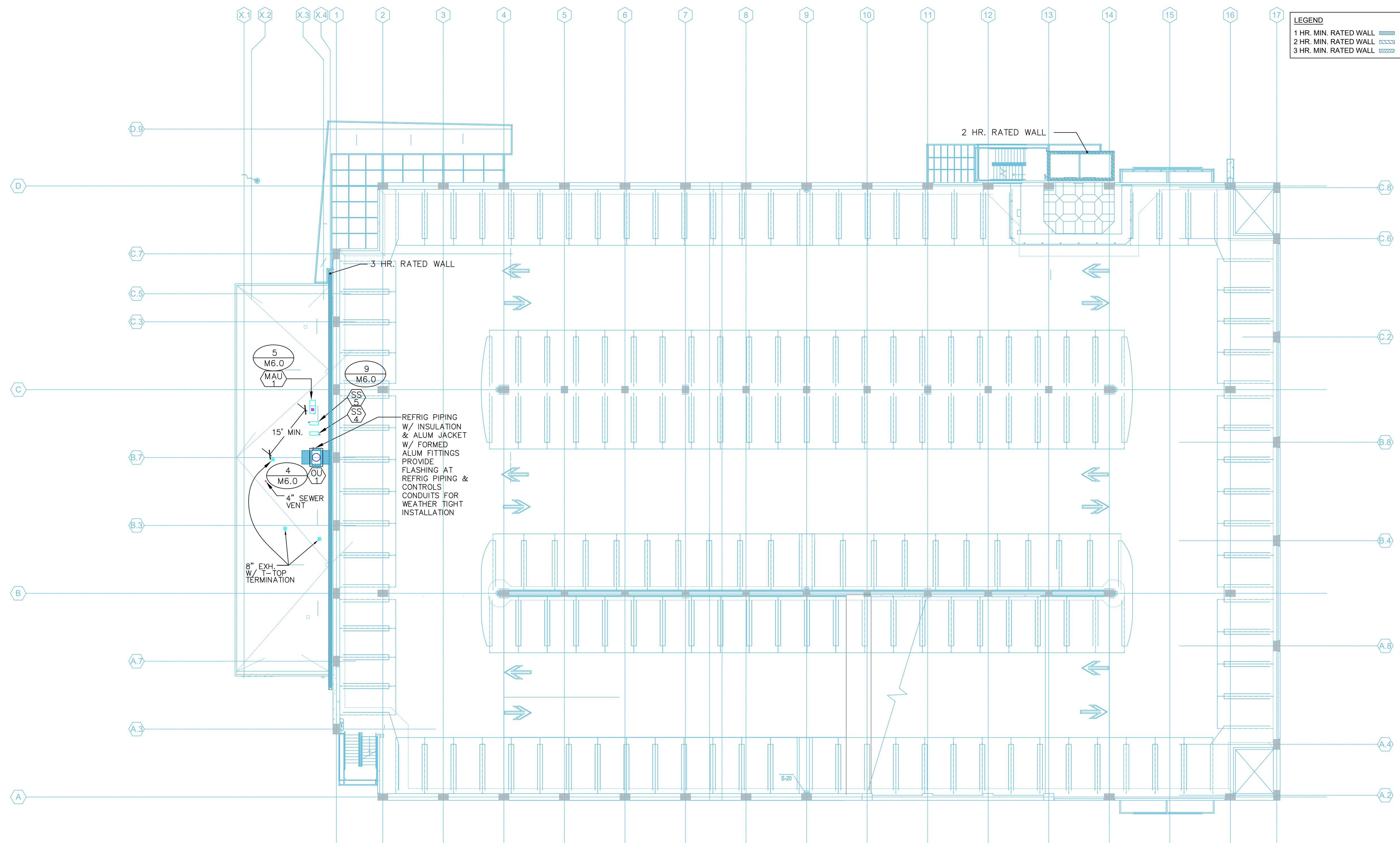


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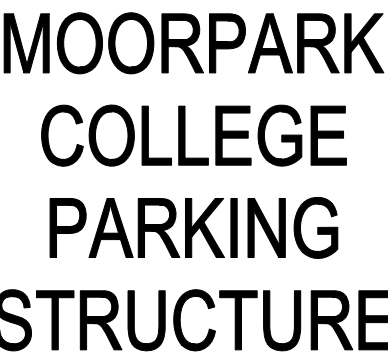


Date	04/04/11
IPD Job No.	10-5555
Drawn By	
Checked By	
Scale	

M4.0



① SECOND LEVEL MECHANICAL PLAN
1/16" = 1'-0"



REGISTERED PROFESSIONAL ENGINEER
HUGH A. MCTERNAN
M030626
Ren. 6/30/14
MECHANICAL
STATE OF CALIFORNIA

Sheet Title
**ENLARGED
MECHANICAL
PLAN**

Sheet No.

M5.0

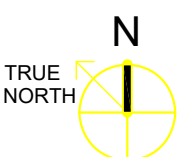
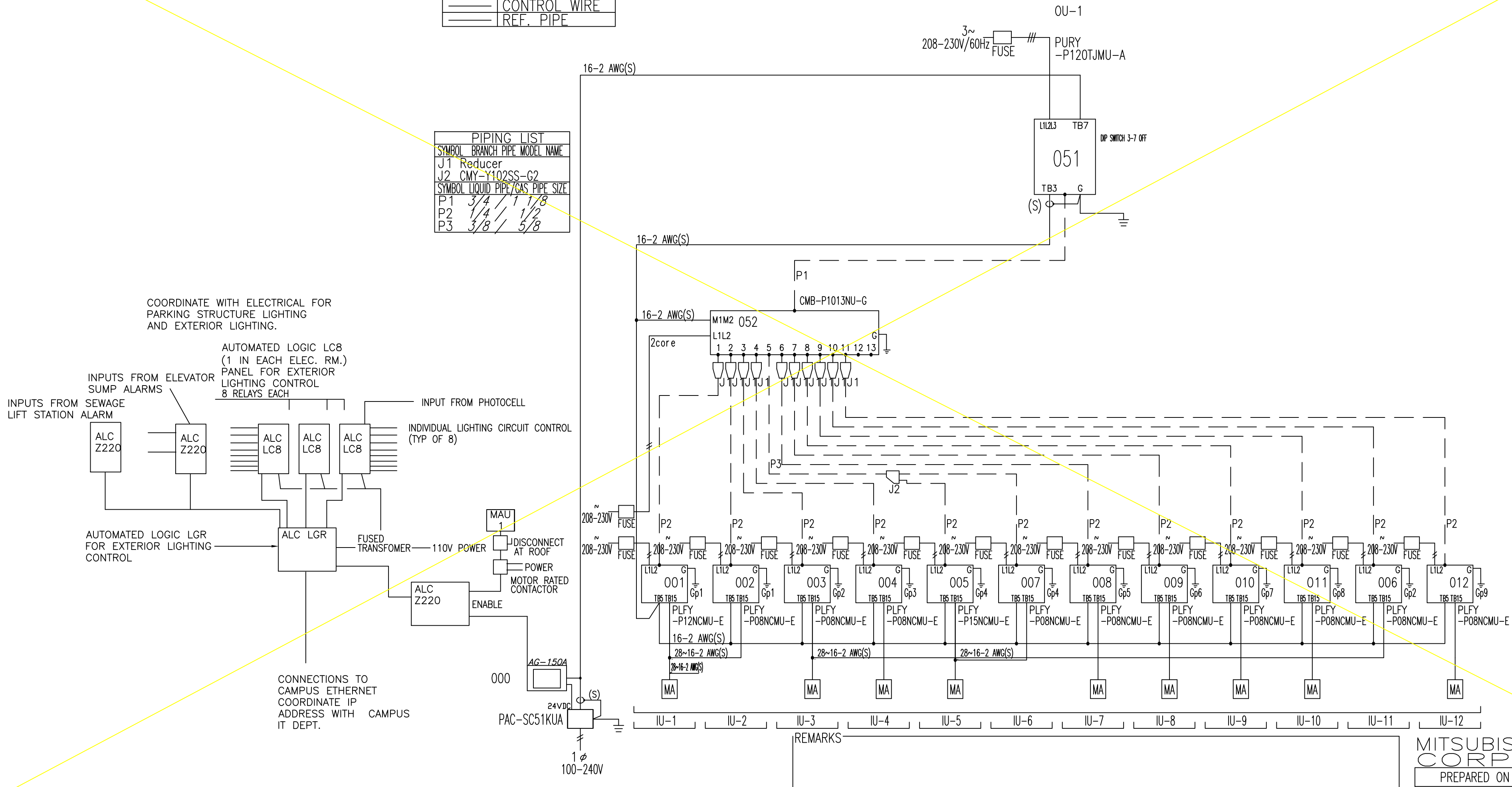


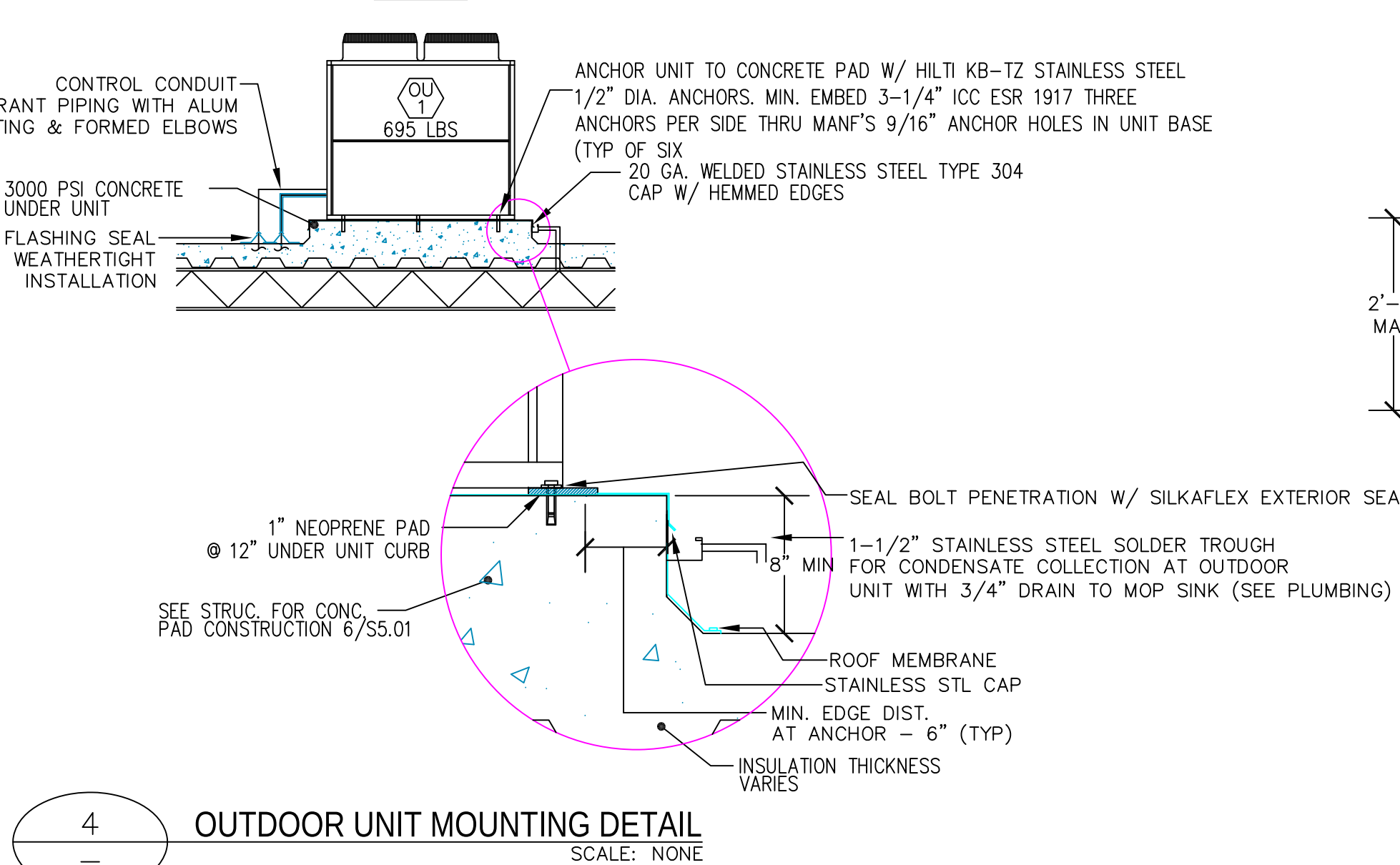
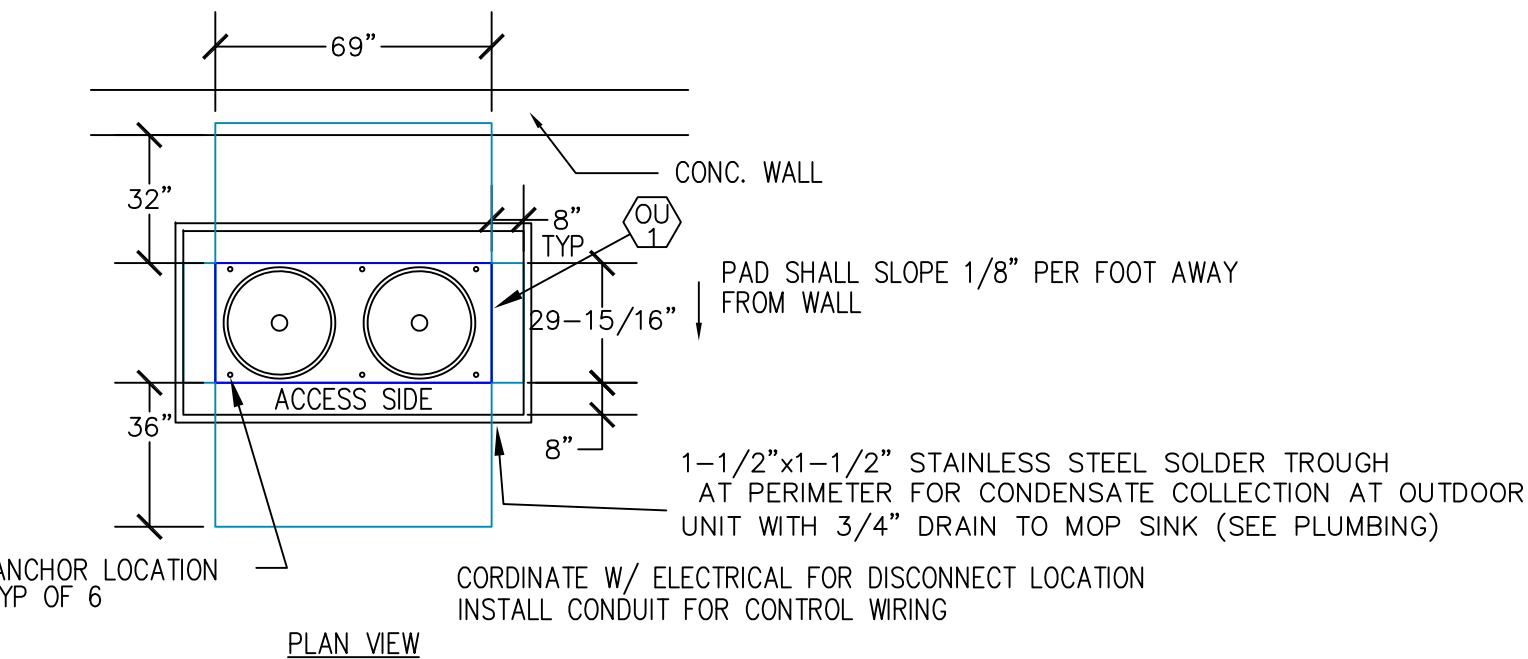
DIAGRAM	SYMBOL	LEGEND	(CONT.No)	PAGE	1 / 1
##		POWER WIRE			
---		CONTROL WIRE			
---		REF. PIPE			

CITY MULTI SYSTEM SCHEMATIC DWG.

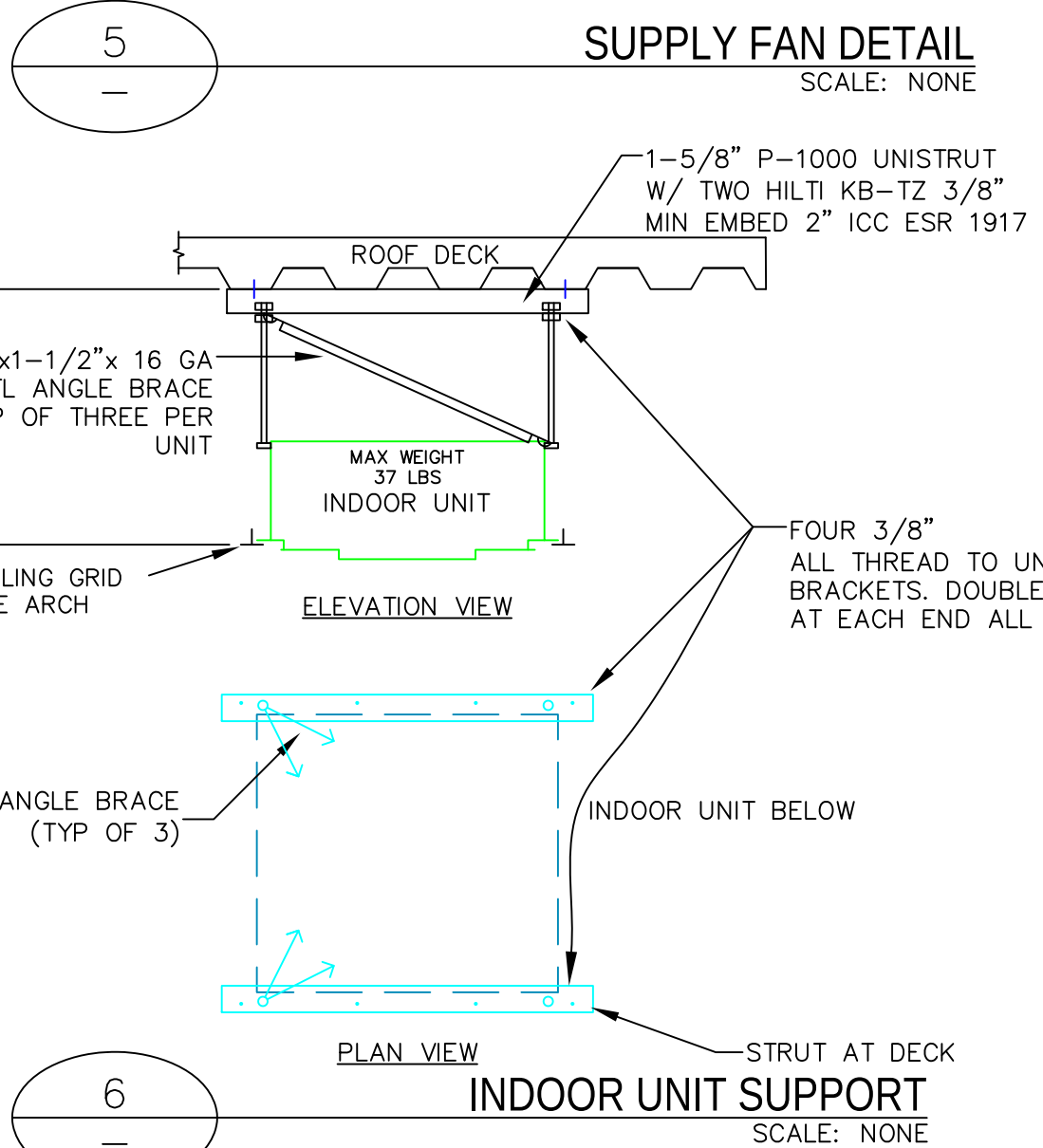
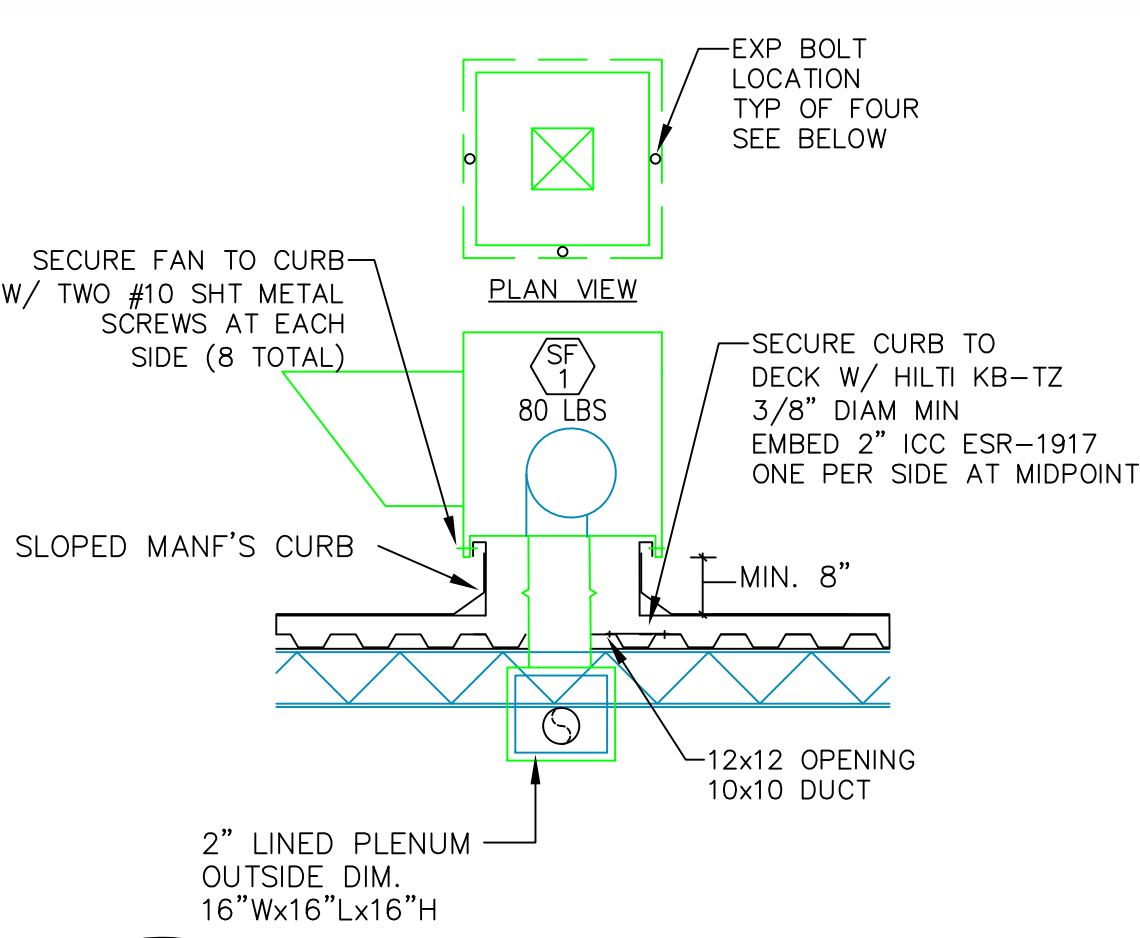
Additional refrigerant charge is needed depending on the size and length of extended piping. Please refer the amount of pre-charge and the formula of calculation which is mentioned on the data book.
1.25mm(16 AWG) : 1.25mm(16 AWG) or more. 0.75mm(20 AWG) : between 0.5mm(24 AWG) and 0.75mm(20 AWG).



1
HVAC & LIGHTING CONTROL DIAGRAM
REFRIGERANT PIPING DIAGRAM
SCALE: NONE

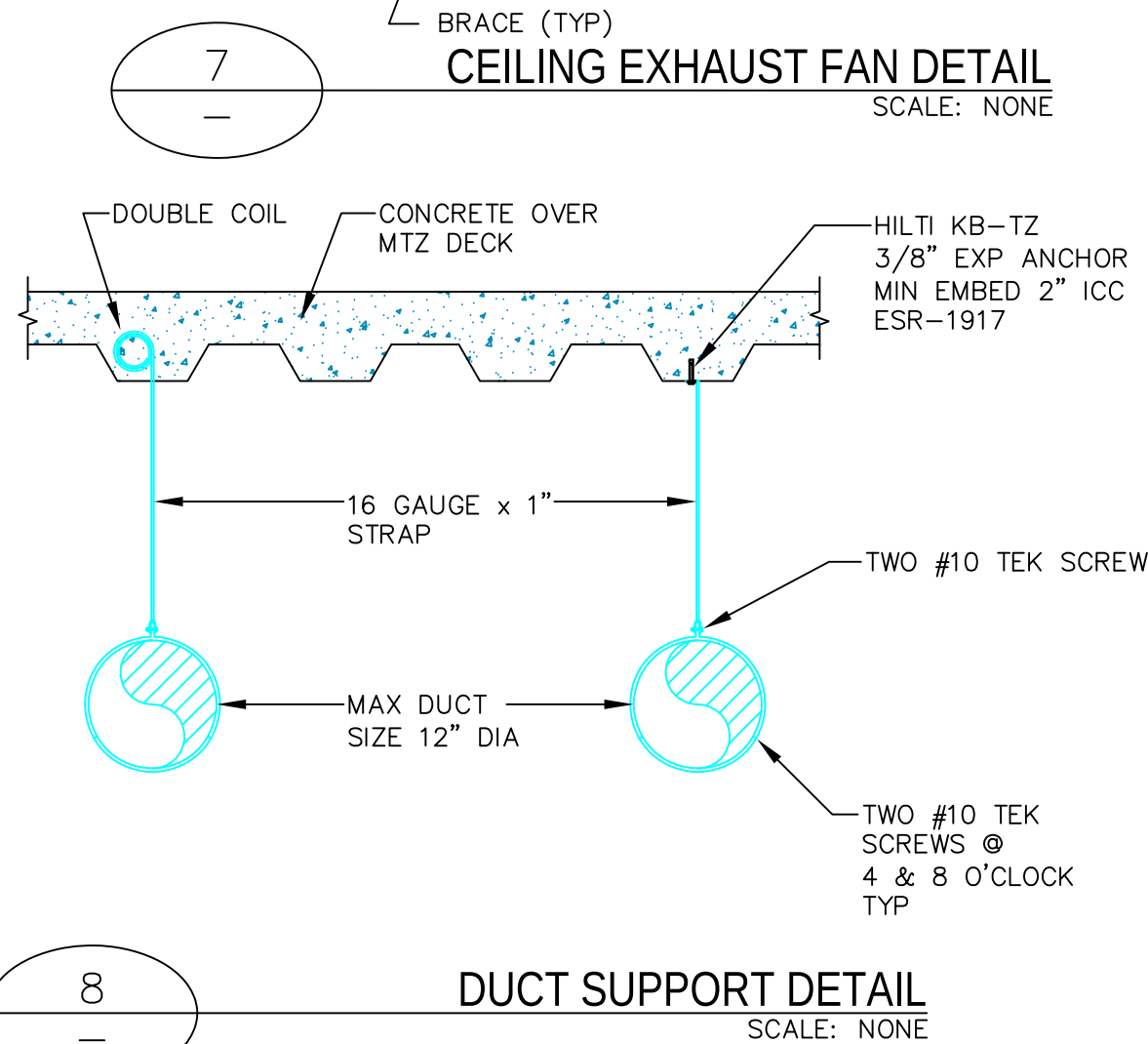
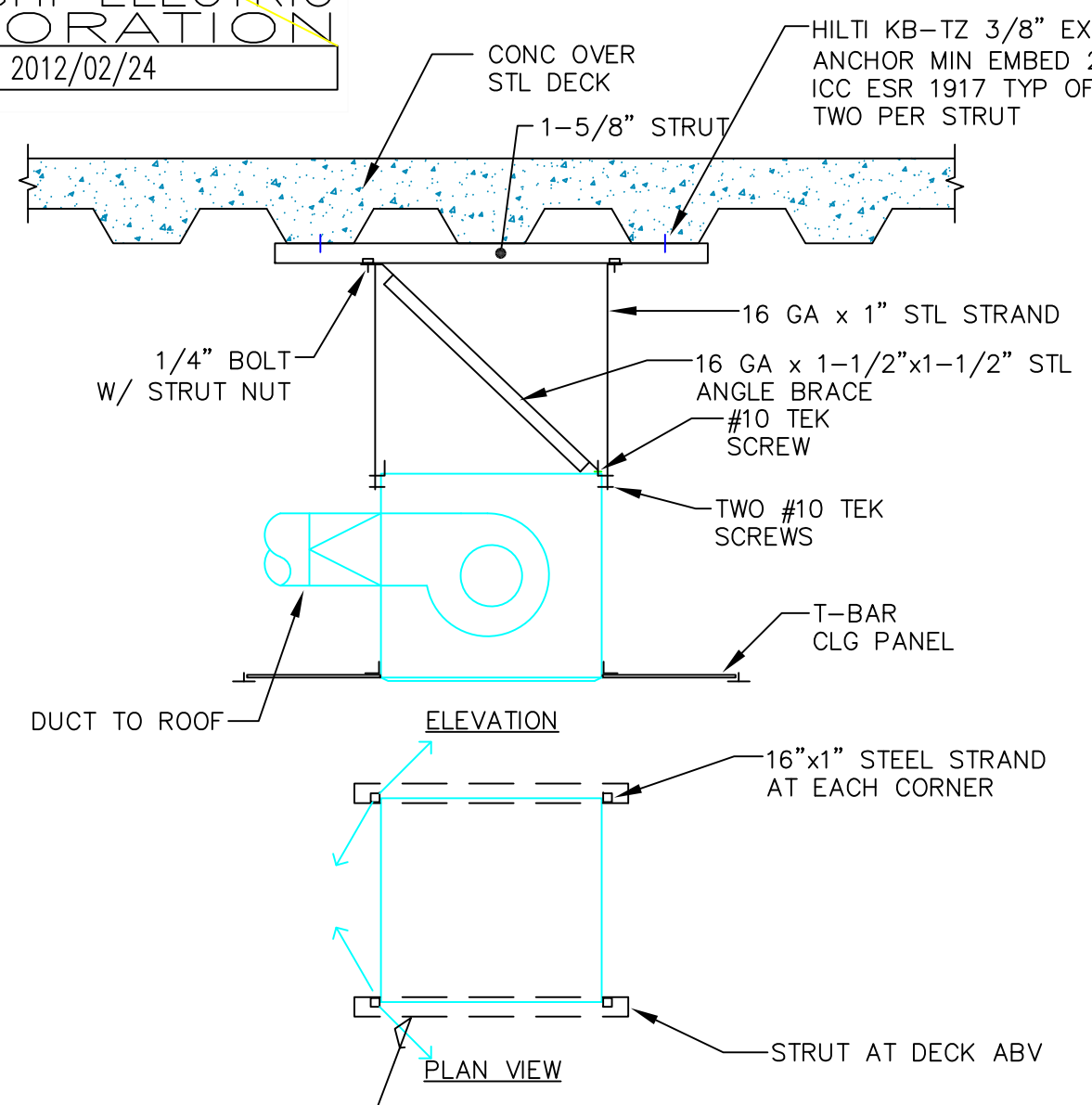


4
OUTDOOR UNIT MOUNTING DETAIL
SCALE: NONE

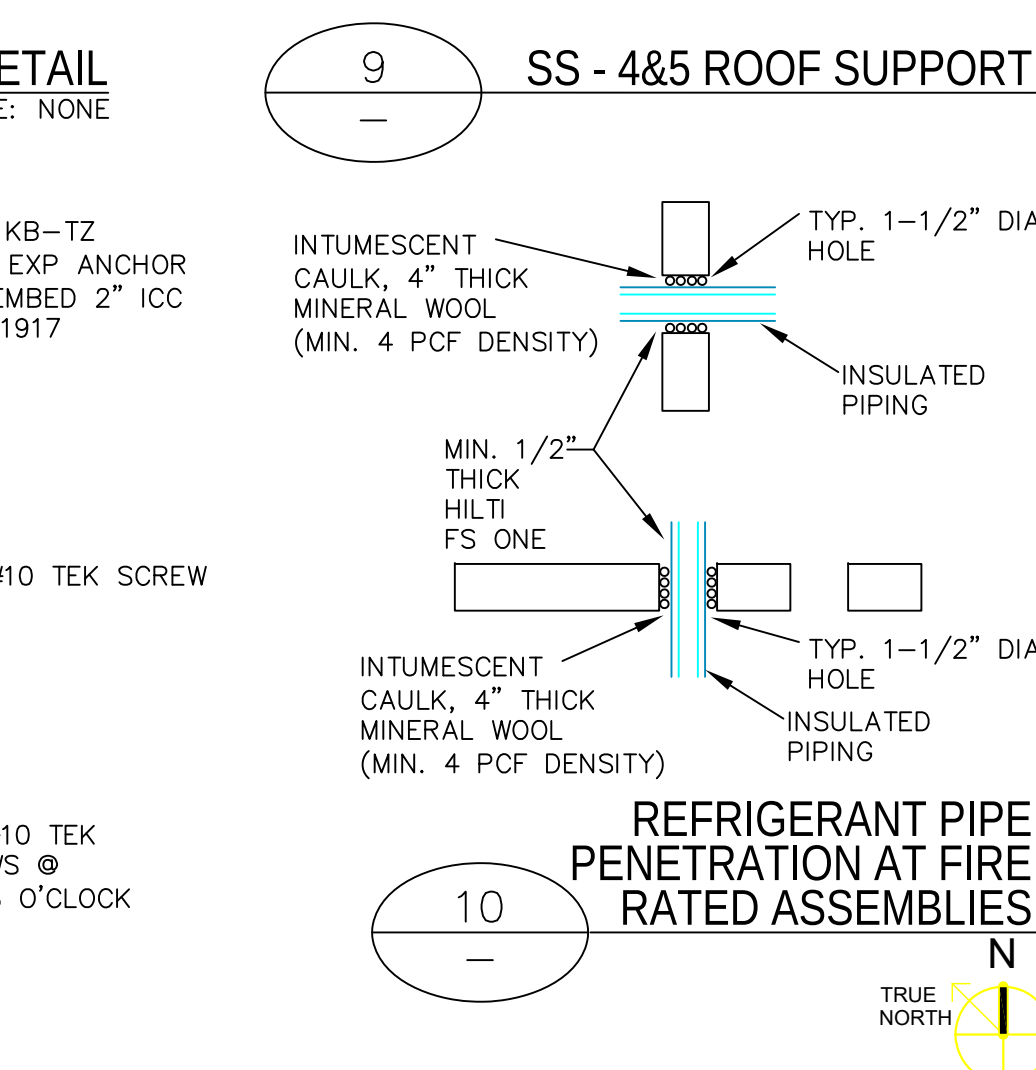
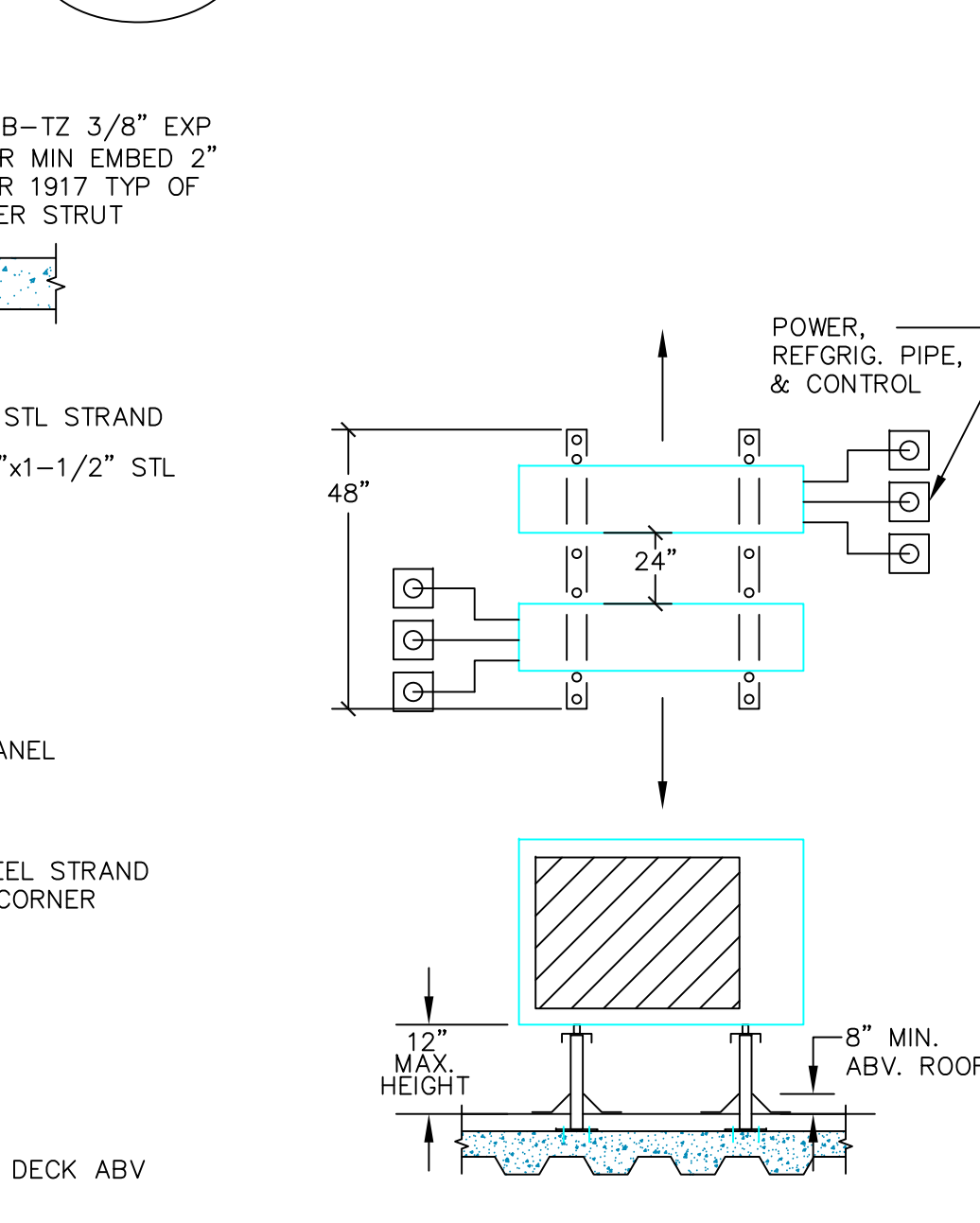
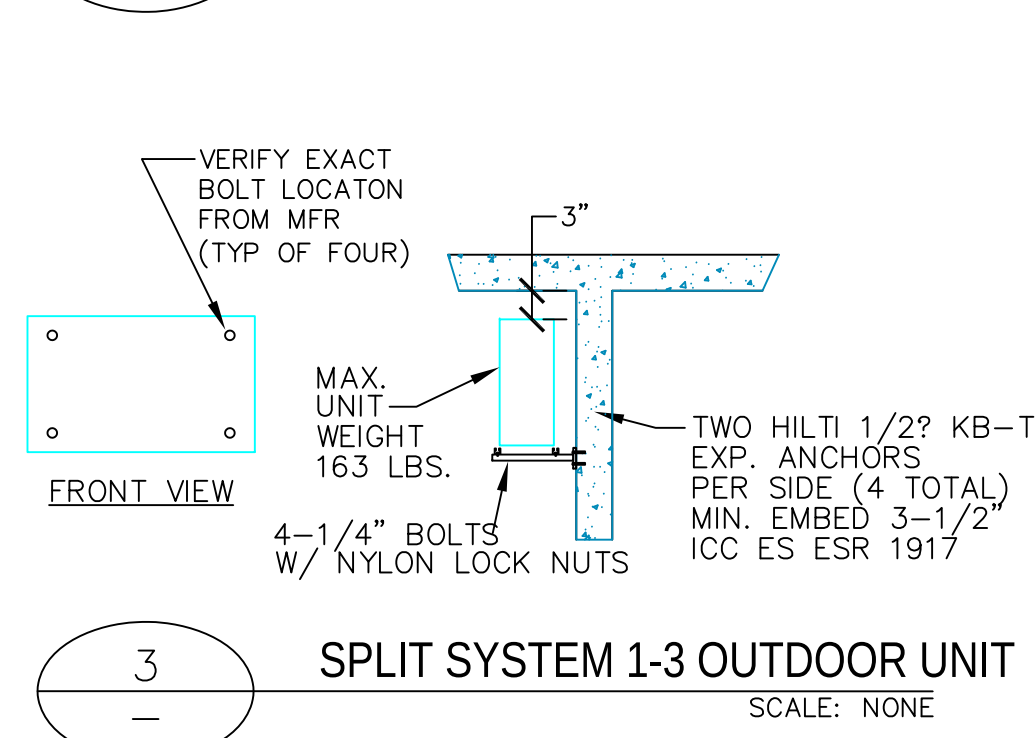
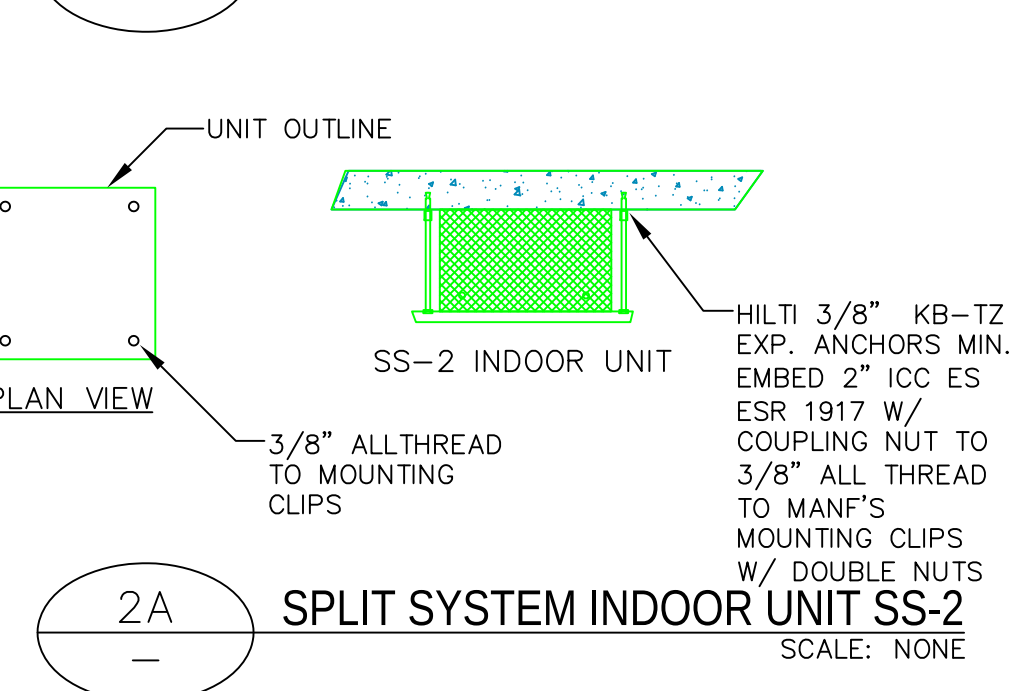
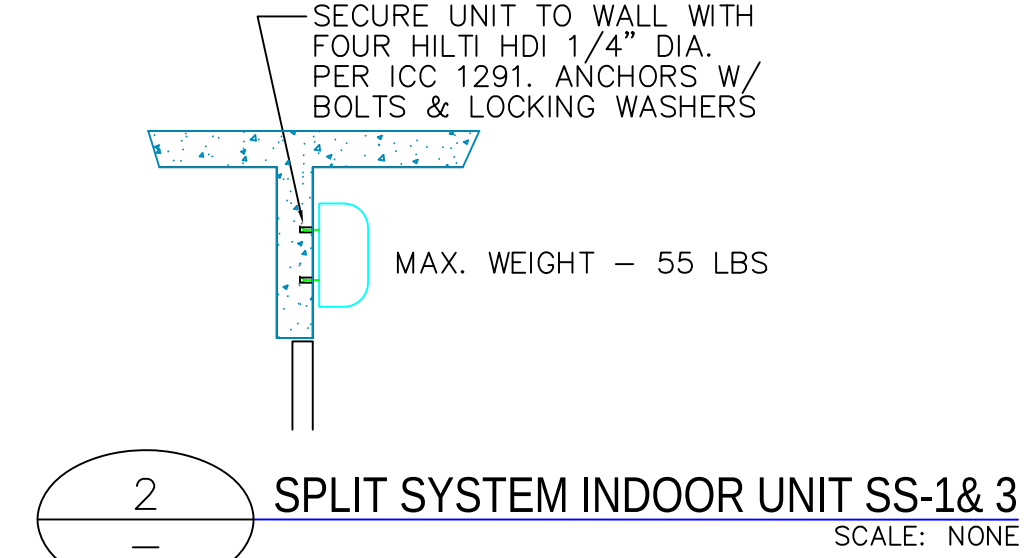


6
INDOOR UNIT SUPPORT
SCALE: NONE

MITSUBISHI ELECTRIC CORPORATION
PREPARED ON 2012/02/24



8
DUCT SUPPORT DETAIL
SCALE: NONE



10
REFRIGERANT PIPE PENETRATION AT FIRE RATED ASSEMBLIES
SCALE: NONE

MOORPARK COLLEGE PARKING STRUCTURE
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REGISTERED PROFESSIONAL ENGINEER
HUGH A. METERMAN
M030626
Ren. 6/30/14
MECHANICAL
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AE Group
Mechanical Engineers, Inc.
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Revision	Date
100% DD	03.14.11
50% CD	05.20.11
DSA PLAN CHECK	07.01.11
PLAN CHECK CORRECTION	04.20.12

Date 04/04/11
IPD Job No. 10-555
Drawn By
Checked By
Scale
Sheet Title
MECHANICAL DETAILS
Sheet No.
M6.0

Moorpark College Parking Structure

Submittal Log: 15624-0

[New Item](#) | [Edit Item](#) | [Delete Item](#) | [Alert Me](#) | [Go Back to List](#)

p>
Submittal No: 0044-0
Spec Section No: 15624-0
Spec Section Title: Div 15. Mech (HVAC Units)
Submittal Item: Product Data
Date Submitted to A/E: 12/11/2012
Date Returned to GC:
Status Code:
Submittal Status: Under Review by A/E
Notes:
Closeout Item: No
ModifiedOn: 12/18/2012
Reviewed By:
Attachments: [Complete Submittals for LG Mini Split Units.0044-0.15624-0.pdf](#)
[Complete Submittals LG Multi-V VRF Units.0044-0. 15624-0.pdf](#)

Created at 12/11/2012 3:12 PM by [Hansel Tato](#)

Last modified at 12/11/2012 3:12 PM by [Hansel Tato](#)



NORMAN S. WRIGHT MECHANICAL EQUIPMENT of Southern California, LLC

2544 E. Miraloma Way, Anaheim, CA 92806-1608
13031 Bradley Avenue, Sylmar, CA 91342-3832

tel 714.632.9800 fax 714.632.6900
tel 818.367.6100 fax 818.367.1221

Re-Submittal

Job Name: Moorpark College Parking Structure
Location: Moorpark
Customer: Thermalair, Inc.
Engineer: AE Group Mechanical Engineering

NSW Job #: 85411
Date: 12-04-2012

Submitted By: Will Dashwood

ARB STRUCTURES	
☒ REVIEWED	☐ REUSE AND RESUBMIT
☐ APPROVED AS NOTED	☐ REJECTED
ARB, INC.'S REVIEW IS FOR GENERAL COMPLIANCE WITH CONTRACT DOCUMENTS. THIS REVIEW DOES NOT CONSTITUTE ACCEPTANCE NOR RELIEVE SUB-CONTRACTOR/SUPPLIER OF FULL COMPLIANCE WITH ALL THE CONTRACT DOCUMENTS.	
SUBCONTRACTOR/VENDOR:	Thermalair Inc.
SUBMITTAL #:	0044-0-015624-0
APPROPRIATE REF. NO:	Therm.Inc/HVAC Units
BY: Hansel Tato	DATE: 12/11/12

WE RESPECTFULLY SUBMIT THE FOLLOWING FOR YOUR APPROVAL.



Duct Free Split System Units

Tag	Qty	Model	Description
SS-1	1	LS091HSV2	Mini split system with indoor wall mount fan coil, outdoor condensing unit & wireless remote controller.
SS-2	1	LC426HV	Single zone ceiling cassette heat pump with ceiling mount unit, outdoor condensing unit & wireless remote controller.
SS-3	1	LS121HSV2	Mini split system with indoor wall mount fan coil, outdoor condensing unit & wireless remote controller.
SS-4	1	LS181HSV2	Mini split system with indoor wall mount fan coil, outdoor condensing unit & wireless remote controller.
SS-5	1	LC246HV	Single zone ceiling cassette heat pump with ceiling mount unit, outdoor condensing unit & wireless remote controller.

H.V.A.C. Industry Leader in Air Moving Equipment & Supplies



NORMAN S. WRIGHT/AIRELINK

Mechanical Equipment, LLC

2544 East Miraloma Way Anaheim CA. 92806-1608
13031 Bradley Ave, Sylmar, CA 91342

Phone 714.632.9800 Fax 714.632.6900
Phone 818-367-6100 Fax 818-367-1221

Review Comments Response

Job Name: Moorpark College Parking Structure
Location: Moorpark, CA
Customer: Thermalair, Inc.
Engineer: AE Group Mechanical Engineering

NSW Job #: 85411

Date: 12/03/12

Submitted By: Will Dashwood

Shop Drawing Submittal Review Comments Response

Please note listed equipment comparisons:

Mitsubishi

MSY/MUY-GE09NA
Wt: 66/22lbs.
Performance: C 9,000btu
SEER: 21
Dimensions: OD 31 1/2" x 11 1/4" x 21 5/8"
ID 31 7/16" x 9 1/8" x 11 5/8"
Electrical: OD 208/230/1 12A
ID 12-24V 1A
Warranty: 5 Years Parts
7 Years Compressor

LG

LS091HSV2
77/22.1lbs.
9,000btu
20
30 5/16" x 11 5/16" x 21 1/2"
35 1/4" x 8 1/4" x 11 1/4"
208/230/1 10A
.7kw
2 Years Parts
6 Years Compressor

PLA-A36BA/PUY-A36NHA
Wt: 163/55lbs.
Performance: C 35,000btu
SEER: 14.2
Dimensions: OD 37 3/8" x 13 13/16" x 37 1/8"
ID 33 1/16" x 33 1/16" x 11 3/4"
Electrical: OD 208/230/1 25A
ID 12-24V 2A
Warranty: 5 Years Parts
7 Years Compressor

MSY/MUY-GE12NA
Wt: 77/22lbs.
Performance: C 12,000btu
SEER: 20.5
Dimensions: OD 31 1/2" x 11 1/4" x 21 5/8"
ID 31 7/16" x 9 1/8" x 11 5/8"
Electrical: OD 208/230/1 12A
ID 12-24V 1A
Warranty: 5 Years Parts
7 Years Compressor

MSY/MUY-GE15NA
Wt: 80/22lbs.
Performance: C 14,000btu
SEER: 21
Dimensions: OD 31 1/2" x 11 1/4" x 21 5/8"
ID 31 7/16" x 9 1/8" x 11 5/8"
Electrical: OD 208/230/1 12A
ID 12-24V 1A
Warranty: 5 Years Parts
7 Years Compressor

PLA-A18BA/PUY-A18NHA
Wt: 97/49lbs.
Performance: C 18,000btu
SEER: 14.2
Dimensions: OD 31 1/2" x 13 7/8" x 23 5/8"
ID 33 1/16" x 33 1/16" x 10 3/16"
Electrical: OD 208/230/1 13A
ID 12-24V 1A
Warranty: 5 Years Parts
7 Years Compressor

LC426HV
227/57lbs.
41,000btu
14
37 13/16" x 15 3/4" x 54 11/32"
33 1/16" x 33 1/16" x 11 3/32"
208/230/1 22.3A
4.63kw
2 Years Parts
6 Years Compressor

LS091HSV2
77/22.1lbs.
11,700btu
20
30 5/16" x 11 5/16" x 21 1/2"
35 1/4" x 8 1/4" x 11 1/4"
208/230/1 10A
1kw
2 Years Parts
6 Years Compressor

LS181HSV2
132/30.9lbs.
18,200btu
20.5
34 5/16" x 12 5/8" x 31 1/2"
40 9/16" x 9 7/8" x 12 13/16"
208/230/1 19A
1.76kw
2 Years Parts
6 Years Compressor

LC246HV
132/46lbs.
23,000btu
14
34 1/4" x 13 3/8" x 31 13/16"
33 1/16" x 33 1/16" x 11 3/32"
208/230/1 17.6A
2.55kw
2 Years Parts
6 Years Compressor

SUBMITTAL DATA: MSY-GE09NA & MUY-GE09NA

9,000 BTU/H WALL-MOUNTED AIR-CONDITIONING SYSTEMS

Job Name:	Location:	Date:
Purchaser:	Engineer:	
Submitted to:	For ☐ Reference ☐ Approval ☐ Construction	
Unit Designation:	Schedule No.:	

GENERAL FEATURES

- Wall-mounted indoor unit
- Standard Hybrid Catechin Prefilter is included with indoor unit
- Quiet operation
- Choice of fan speeds: Quiet, Low, Medium, High, and Super High; Auto fan speed control also included
- Wireless remote controller is included; PAR-21MAA wired remote controller can be installed as an option
- Indoor unit powered from outdoor unit using A-Control
- Auto restart following a power outage
- Limited warranty: five years on parts and defects and seven years on the compressor

OPTIONAL ACCESSORIES
Outdoor Unit

- Drain Socket Assembly (MAC-860DS)

Indoor Unit

- M-NET Control Adapter (MAC-399IF)
- MA Contact Terminal Interface (MAC-397IF)
- Wired Remote Controller (PAR-21MAA; requires MAC-397IF)
- Condensate Pump (230V; SI3100-230)
- Anti-allergy Enzyme Filter (Two pieces per set; MAC-408FT-E)

Cooling*

Rated Capacity 9,000 Btu/h
Minimum Capacity 3,800 Btu/h
SEER 21.0 Btu/h/W
Total Input 660 W
* Rating Conditions (Cooling) - Indoor: 80°F (27°C) DB, 67°F (19°C) WB; Outdoor: 95°F (35°C) DB, 75°F (24°C) WB.

Electrical Requirements

Power Supply 208 / 230V, 1-Phase, 60 Hz
Breaker Size 15 A

Voltage

Indoor - Outdoor S1-S2 AC 208 / 230V
Indoor - Outdoor S2-S3 DC 12-24V
Indoor - Remote Controller Wireless

OPERATING RANGE

		Indoor Intake Air Temp.	Outdoor Intake Air Temp.
Cooling	Maximum	90°F (32°C) DB, 73°F (23°C) WB	115°F (46°C) DB
	Minimum	67°F (19°C) DB, 57°F (14°C) WB	14°F (-10°C) DB


Indoor Unit

MCA 1 A
Fan Motor 0.76 F.L.A.
Airflow (Quiet - Lo - Med - Hi - Super Hi)
Cooling 145 - 170 - 237 - 321 - 399 Dry CFM
109 - 134 - 201 - 286 - 364 Wet CFM
Sound Pressure Level (Quiet - Lo - Med - Hi - Super Hi)
Cooling 19 - 22 - 30 - 37 - 43 dB(A)

DIMENSIONS	UNIT INCHES / MM
W	31-7/16 / 799
D	9-1/8 / 232
H	11-5/8 / 295

Weight 22 lbs. / 10 kg
External Finish Munsell No. 1.0Y 9.2 / 0.2
Field Drainpipe Size O.D. 5/8" / 15.88 mm
Remote Controller Wireless
(Optional Wired Remote Controller PAR-21MAA;
see Data Submittal Sheet)

Outdoor Unit

Compressor DC Inverter-driven
MCA 12 A
Fan Motor 0.50 F.L.A.
Sound Pressure Level
Cooling 46 dB(A)

DIMENSIONS	INCHES / MM
W	31-1/2 / 800
D	11-1/4 / 286
H	21-5/8 / 549

Weight 66 lbs. / 30 kg
External Finish Munsell No. 3Y 7.8 / 1.1

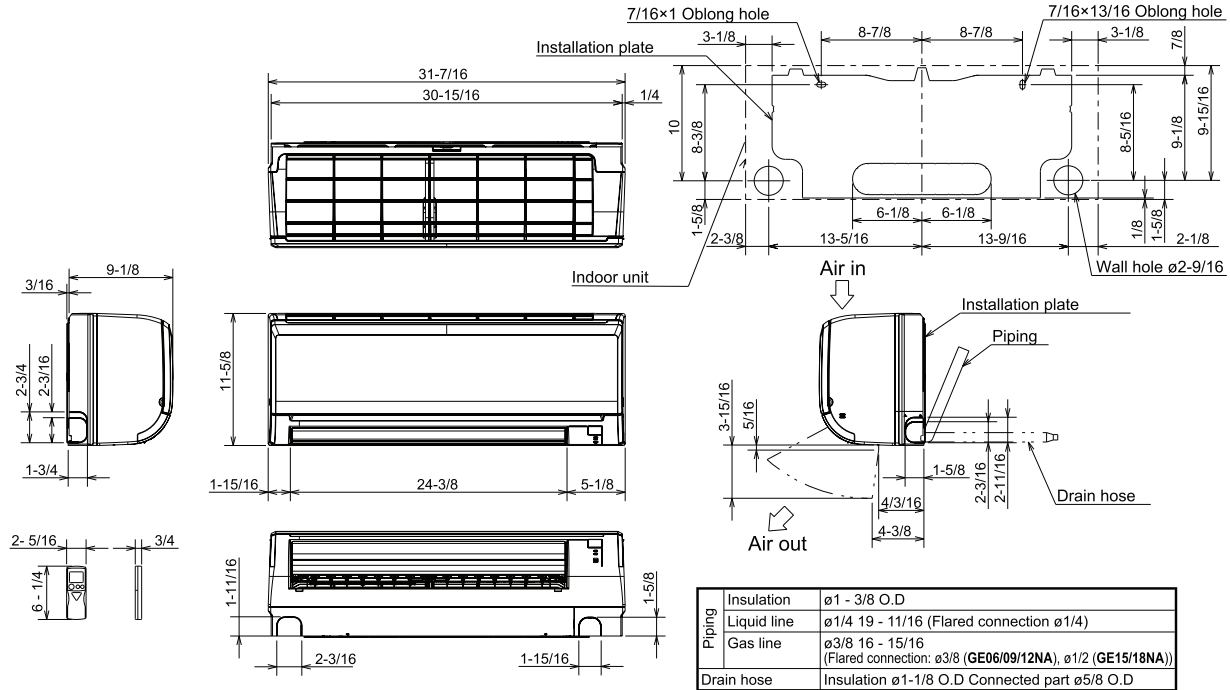
Refrigerant Type R410A
Refrigerant Pipe Size O.D.
Gas Side 3/8" / 9.52 mm
Liquid Side 1/4" / 6.35 mm
Max. Refrigerant Pipe Length 65 ft. / 20 m
Max. Refrigerant Pipe Height Difference 40 ft. / 12 m
Connection Method Flared



DIMENSIONS: MSY-GE09NA & MUY-GE09NA

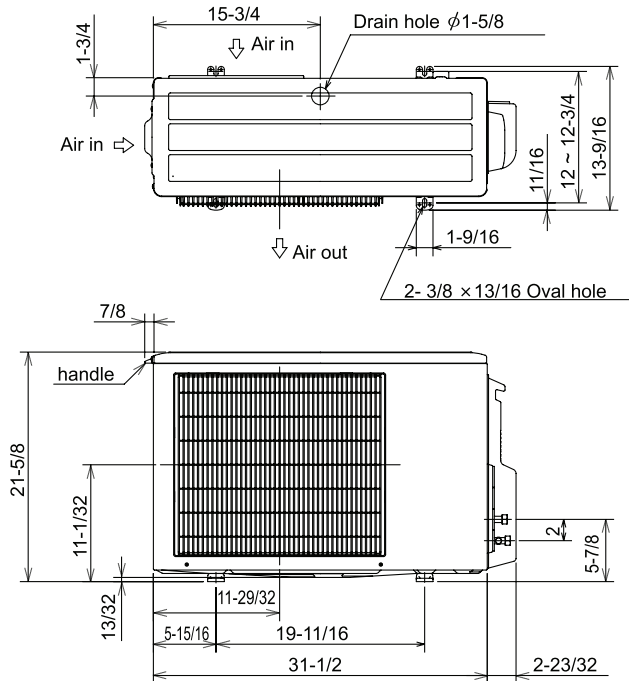
MSY-GE09NA

Unit: inch

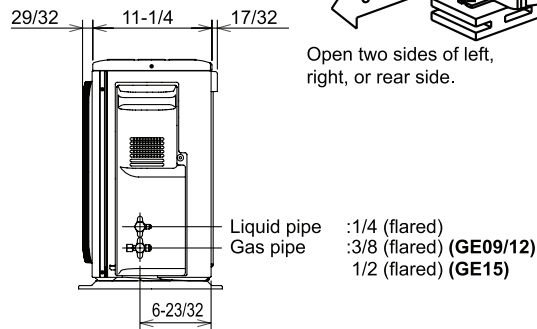
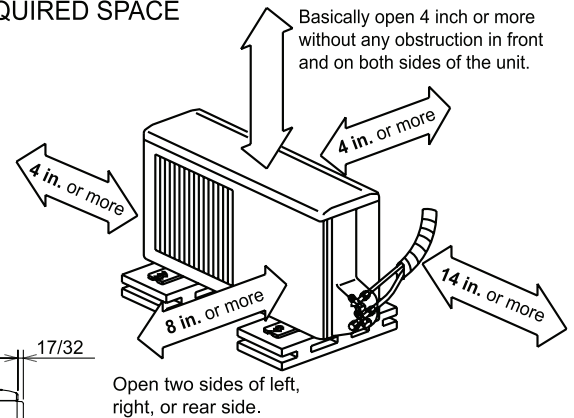


MUY-GE09NA

Unit: inch



REQUIRED SPACE



HVAC Advanced Products Division

3400 Lawrenceville Suwanee Rd
Suwanee, GA 30024
Tele: 678-376-2900 • Fax: 800-889-9904
Toll Free: 800-433-4822 (#3)
www.mehvac.com

Specifications are subject to change without notice.



Date:

For: ☐ File ☐ Resubmit

PO No.:

☐ Approval ☐ Other _____

Architect:

GC:

Engr:

Mech:

Rep:

(Company)

(Project Manager)

LS091HSV2

High Efficiency Single Zone Inverter

ODU - LSU091HSV2 IDU - LSN091HSV2

Performance:**Cooling:**

Capacity (Btu/h)	9,000
SEER	20.0
EER	13.3

SEER - Seasonal Energy Efficiency Ratio EER - Energy Efficiency Ratio

Heating:

Capacity (Btu/h)	10,800
HSPF	11.0

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:**Outdoor Unit:**

Power Supply (V/Hz/Ø)	208-230/60/1
MOP (A)	15
MCA (A)	10.0
Cooling Rated Amps (A)	7.3
Heating Rated Amps (A)	8.1
Compressor (A)	7.6
Fan Motor (A)	0.25

MOP - Maximum Overcurrent Protection MCA - Minimum Circuit Ampacity

Indoor Unit:

Power Supply (V/Hz/Ø)	208-230/60/1
Cooling Power Input (kW)	0.68
Heating Power Input (kW)	0.70

Piping:

Liquid Line (in, OD)	1/4
Vapor Line (in, OD)	3/8
Additional Refrigerant (oz/ft)	0.22
Max Pipe Length (ft) ¹	65
Piping Length (no add'l refrigerant, ft)	41
Max Elevation (ft)	32

Controls Features:

- 24-Hour on/off timer
- 4-Way auto swing
- Auto changeover
- Auto restart
- Built-in low ambient standard, down to 14°F (cooling mode)
- Chaos wind
- Condensate Sensor Connection
- Energy saving
- Inverter (variable speed compressor)
- Jet cool/Jet heat
- Plasma air purifying system
- Self-cleaning indoor coil
- Sleep mode
- Ultra quiet operation

Optional Accessories (sold separately)

- ☐ 7-Day Programmable Controller (Black) - PQRCVSL0
- ☐ 7-Day Programmable Controller (White) - PQRCVSL0QW
- ☐ Low Ambient Wind Baffle (Cooling operation to 0°F) - ZLABGP01A

For continual product development, LG reserves the right to change specifications without notice.

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**Operating Range:****Outdoor Unit:**

Cooling (°F DB)	14-118
Heating (°F WB)	5-75

Indoor Unit:

Cooling (°F DB)	64-86
Heating (°F DB)	60-86

Unit Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Refrigerant Charge (lbs)	2.21
ODU Sound Pressure (±3 dB(A)) ²	45
IDU Sound Pressure (±3 dB(A)) ²	38/33/24
ODU Net Unit Weight (lbs)	77.2
ODU Shipping Weight (lbs)	81.6
IDU Net Unit Weight	22.1
IDU Shipping Weight (lbs)	26.5
Heat Exchanger Coating	GoldFin™
Communication Cable (No x AWG) ³	4 x 18

Fan:

ODU Type	Propeller
IDU Type	Cross Flow
Fan Speeds (Fan/Cooling/Heating)	6/Auto/Chaos
Quantity (ODU + IDU)	1 + 1
Motor/Drive	Brushless Digitally Controlled/Direct
ODU Max Air Flow Rate (CFM)	1,165
IDU Max Air Flow H/M/L (CFM)	350/280/210
Dehumidification (pts/hr)	2.6

Notes:

- Piping lengths are equivalent.
- Sound Pressure levels are tested in an anechoic chamber under ISO Standard 1996.
- All communication cable to be minimum 18 AWG, 2-conductor, stranded, shielded and must comply with applicable local and national code.
- See Engineering Manual for sensible and latent capacities.
- Power wiring cable size must comply with the applicable local and national code.
- The indoor unit comes with a dry helium charge.
- This data is rated 0 ft above sea level, with 24.6 ft of refrigerant line and a 0 ft level difference between outdoor and indoor units.
- Must follow installation instructions in the applicable LG installation manual.

Standard Features:

- Limited Five Year Compressor Warranty
- Limited Two Year Functional Parts Warranty



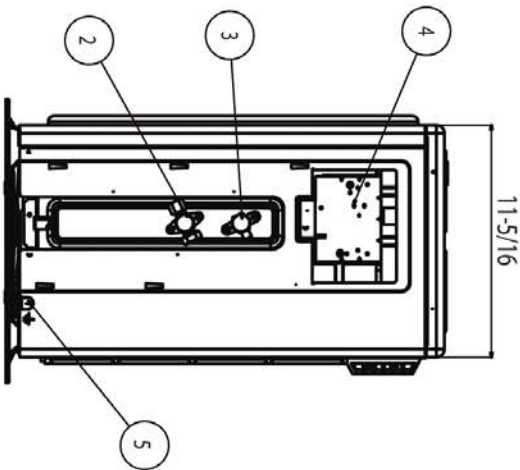
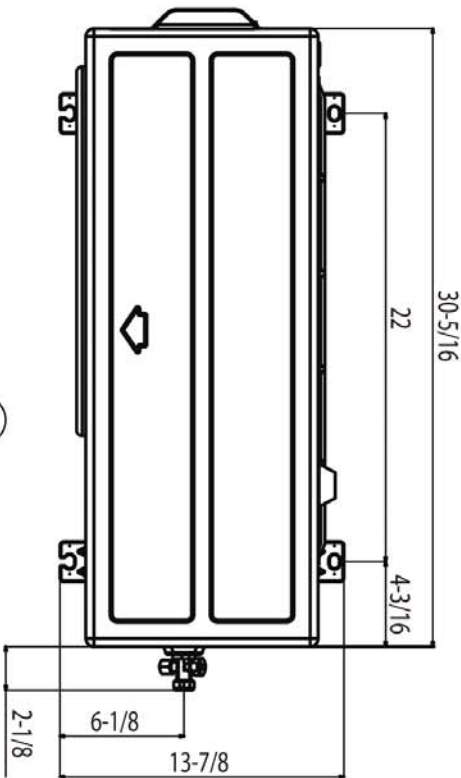
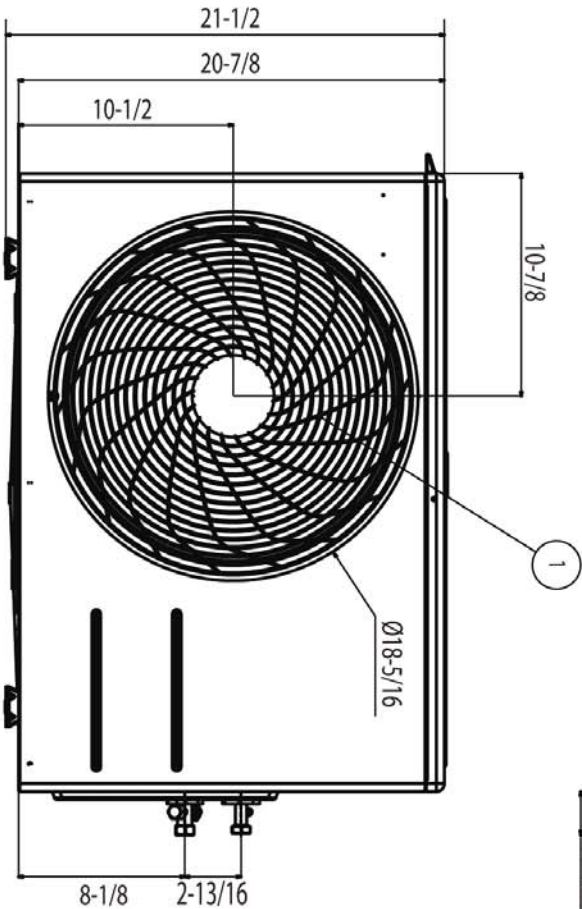
ODU - LSU091HSV2
High Efficiency Single Zone Inverter



Tag #:SS-1

Date:

PO No.:



Unit: inch

Item No.	Part Name	Remarks
1	Air Discharge Grille	
2	Gas Pipe Connection Port	
3	Liquid Pipe Connection Port	
4	Control Box	
5	Earth Screw	

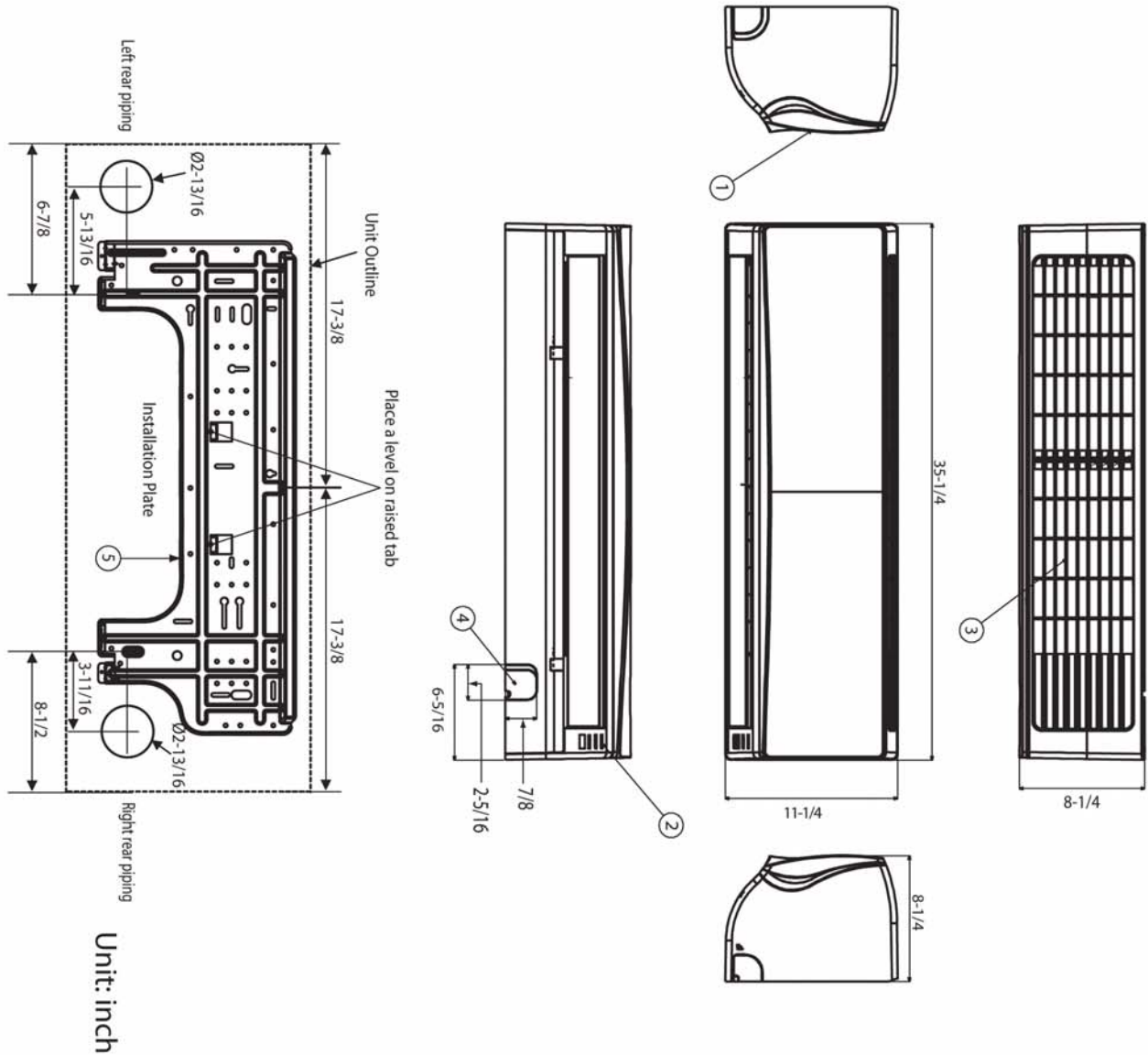
IDU - LSN091HSV2
High Efficiency Single Zone Inverter



Tag #: SS - 1

Date:

PO No.:



Item No.	Part Name	Remarks
1	Front Panel	
2	Display & Signal Receiver	
3	Air Suction Grille	
4	Knockout hole	For pipe and cable
5	Installation Plate	

SUBMITTAL DATA: PLA-A36BA & PUY-A36NHA

35,000 BTU/H CEILING CASSETTE AIR-CONDITIONING SYSTEM

Job Name: _____	Location: _____	Date: _____
Purchaser: _____	Engineer: _____	
Submitted to: _____	For ☐ Reference ☐ Approval ☐ Construction	
Unit Designation: _____	Schedule No.: _____	

GENERAL FEATURES

- Compact side-discharge outdoor unit
- Quiet operation—indoor and outdoor units
- Built-in drain lift mechanism for condensate removal; lifts to 33-7/16 in.
- Wide air flow pattern for better air distribution
- Auto wave airflow in heating mode—unit independently cycles through horizontal and vertical positions for more even heat distribution
- Independent vane adjustment
- Automatic fan speed control
- Self-check function—integrated diagnostics
- Advanced microprocessor control
- Hard-wired, wall-mounted, remote controller (PAR-21MAA)
- Limited warranty: five years on parts and defects and seven years on compressors

OPTIONAL ACCESSORIES
Indoor Unit

- Multi-function Casement (PAC-SH53TM-E)
- Air Outlet Shutter Plates (PAC-SH51SP-E)
- Wireless Signal Receiver (PAR-SA9FA-E)
- Wireless Remote Controller (PAR-FL32MA)
- i-see Sensor Corner Panel (PAC-SA1ME-E)
- High-efficiency (MERV 10) Filter (PAC-SH59KF-E)

Outdoor Unit

- M-NET Adapter (PAC-SF80MA-E)
- Air Outlet Guide (PAC-SG59SG-E)
- Wind Baffle (WB-PA2)

Cooling*

Rated Capacity 35,000 Btu/h
Minimum Capacity 12,000 Btu/h
SEER 14.2 Btu/h/W
Total Input 4,500 W
Power Supply 208 / 230V, 1-Phase, 60 Hz
Breaker Size 30 A

* Rating Conditions (Cooling) - Indoor: 80°F (27°C) DB, 67°F (19°C) WB.
Outdoor: 95°F (35°C) DB, 75°F (24°C) WB.

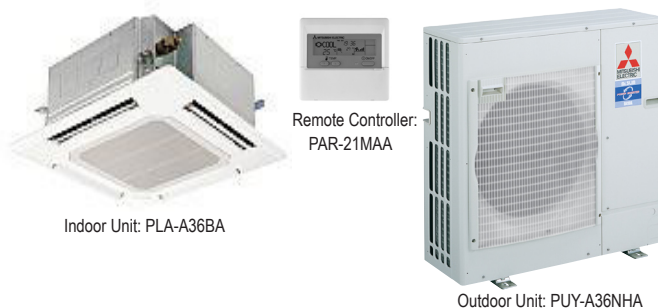
Voltage

Indoor - Outdoor S1-S2 AC 208 / 230V
Indoor - Outdoor S2-S3 DC 24V
Indoor - Remote Controller DC 12V

OPERATING RANGE

		Indoor Intake Air Temp.	Outdoor Intake Air Temp.
Cooling	Maximum	95°F (35°C) DB, 71°F (22°C) WB	115°F (46°C) DB
	Minimum	67°F (19°C) DB, 57°F (14°C) WB	0°F** (-18°C) DB

** With optional wind baffle accessory installed. If not installed, the minimum temperature will be 23°F (-5°C) DB.


Indoor Unit

MCA 2 A
Fan Motor 1.00 F.L.A.
Fan Motor Output 120 W
Airflow (Lo - M1 - M2 - Hi) 710 - 810 - 920 - 1,060 Dry CFM
670 - 770 - 880 - 1,030 Wet CFM
Sound Level (Lo - M1 - M2 - Hi) 32 - 34 - 37 - 40 dB(A)

DIMENSIONS	UNIT INCHES / MM	PANEL INCHES / MM
W	33-1/16 / 840	37-3/8 / 950
D	33-1/16 / 840	37-3/8 / 950
H	11-3/4 / 298	1-3/8 / 35

Weight (Unit/Grille)

lbs. 55 / 13
kg 25 / 6
Field Drainpipe Size O.D. 1-1/4" / 32 mm
Wall-mounted Remote Controller PAR-21MAA
(See Data Submittal Sheet)

Outdoor Unit

Compressor DC Inverter-driven Rotary
MCA 25 A
Fan Motor 0.75 F.L.A.
Sound Pressure Level 48 dB(A)

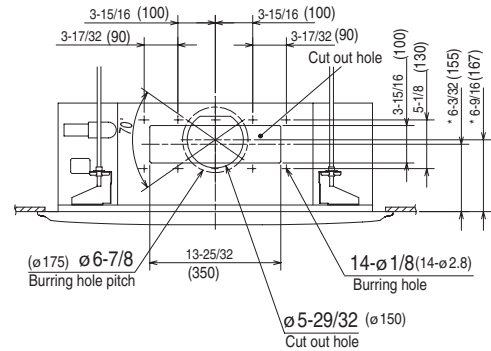
DIMENSIONS	INCHES / MM
W	37-3/8 / 950
D	13 + 1-3/16 / 330 + 30
H	37-1/8 / 943

Weight 163 lbs. / 74 kg
Refrigerant Type R410A
Refrigerant Pipe Size O.D.
Gas Side 5/8" / 15.88 mm
Liquid Side 3/8" / 9.52 mm
Max. Refrigerant Pipe Length 165' / 50 m
Max. Refrigerant Pipe Height Difference 100' / 30 m
Connection Method Flared

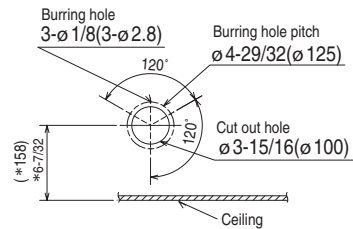
DIMENSIONS: PLA-A36BA

Unit : inch(mm)

Detail connecting of branch duct (nominal 6" round or nominal 4 x 14" rectangular)

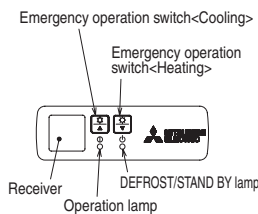


Detail drawing of ventilation air intake connection



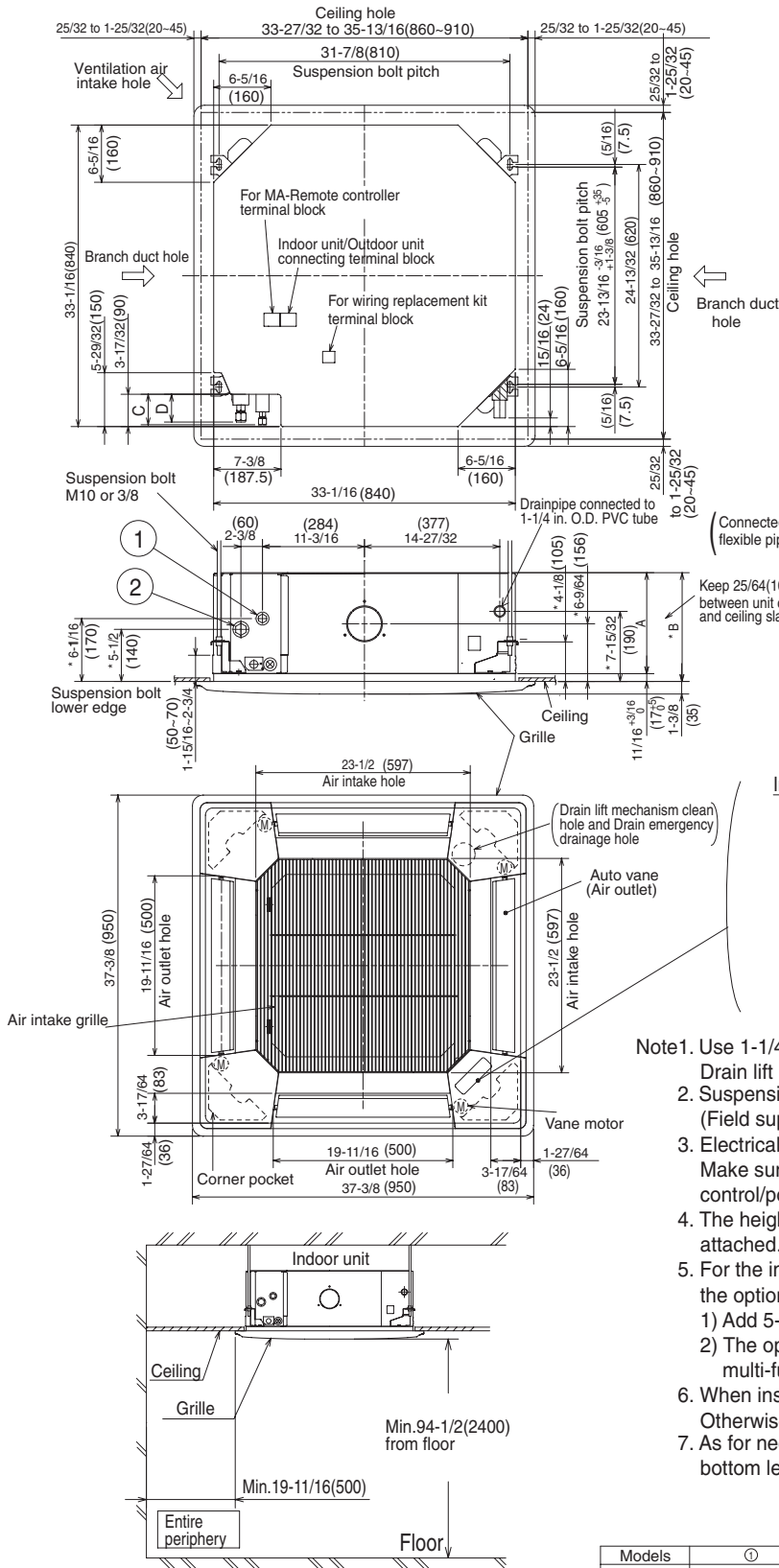
In case of standard grille

In case of wireless remote controller



- Note1. Use 1-1/4 in. O.D. (32) PVC TUBE.
Drain lift mechanism is included.
2. Suspension bolt, use M10 or W3/8.
(Field supplied)
3. Electrical box may be removed for service purposes.
Make sure to slack the electrical wire little bit for control/power wires connection.
4. The height of the indoor unit is adjustable with the grille attached.
5. For the installation of the optional high efficiency filter, the optional multi-functional casement is required.
1) Add 5-5/16 (135mm) to the dimensions marked with an * in the figures
2) The optional high efficiency filter required optional multi-functional casement.
6. When installing the branch ducts, be sure to insulate adequately.
Otherwise condensation may occur.
7. As for necessary installation/service space, please refer to the bottom left figure.

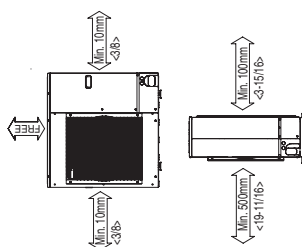
Models	①	②	A	B	C	D
PLA-A12BA PLA-A18BA	Refrigerant pipe ...ø 6.35mm Flared connection ...1/4	Refrigerant pipe ...ø 12.7mm Flared connection ...1/2	9-1/2 (241)	10-3/16 (258)	3-5/32 (80)	2-29/32 (74)
PLA-A24BA PLA-A30BA PLA-A36BA PLA-A42BA	Refrigerant pipe ...ø 9.52mm Flared connection ...3/8	Refrigerant pipe ...ø 15.88mm Flared connection ...5/8	11-1/16 (281)	11-3/4 (298)	3-11/32 (85)	3-1/32 (77)



Unit : mm<inch>

The diagram below shows a

Explanation of particular details are given in the installation manuals etc.



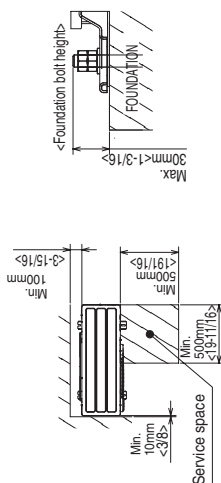
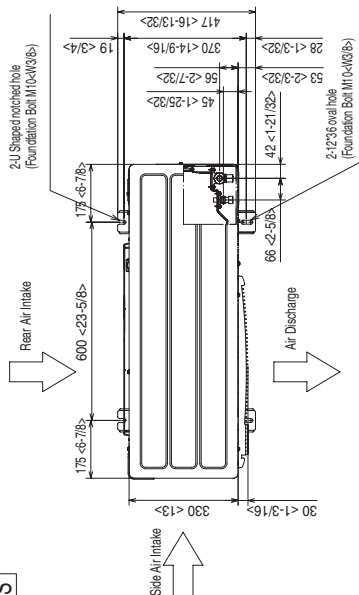
Dimensions of space needed for service access are shown in the below diagram.

Please secure the unit firmly with 4 foundation (M10<W3/8>) bolts. (Bolts and washers must be purchased locally.)

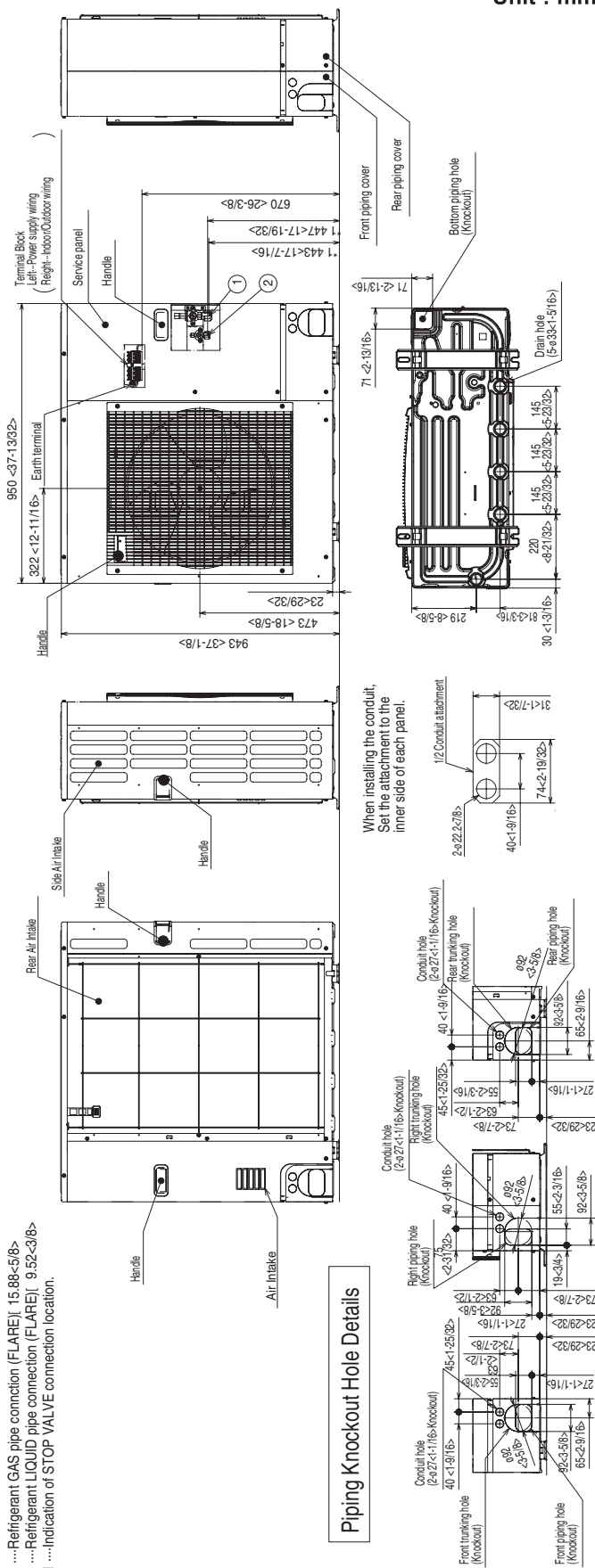
Please secure the unit firmly with 4 foundation (M10<W3/8>) bolts. (Bolts and washers must be purchased locally.)

Piping and wiring connections can be made from 4 directions: front, right, rear and below.

Piping and wiring connections can be made from 4 directions: front, right, rear and below.



1Refrigerant GAS pipe connection (FLARE)[15.88<5/8>
2Refrigerant LIQUID pipe connection (FLARE)[9.52<3/8>
1Indication of STOP VALVE connection location



Piping Knockout Hole Details

Date:	For: ☐ File ☐ Resubmit
PO No.:	☐ Approval ☐ Other _____
Architect:	GC:
Engr:	Mech:
Rep:	
(Company)	(Project Manager)

LC426HV

Ceiling Cassette Single Zone

ODU-LUU426HV IDU-LCN426HV

Performance:

Cooling Capacity (Btu/h)	41,000
Heating Capacity (Btu/h)	41,000
SEER	14
EER	8.9/8.8
HSPF	7.7

SEER - Seasonal Energy Efficiency Ratio EER - Energy Efficiency Ratio
HSPF - Heating Seasonal Performance Factor

Electrical:

Outdoor Unit:

Power Supply (V/Hz/Ø)	208-230/60/1
MOP (A)	40
MCA (A)	22.3
Cooling Rated Amps (A)	25.3
Heating Rated Amps (A)	24.4
Compressor (A)	15.3
Fan (A)	1.2

MOP - Maximum Overcurrent Protection MCA - Minimum Circuit Ampacity

Indoor Unit:

Power Supply (V/Hz/Ø)	208-230/60/1
Cooling Power Input (kW)	4.67
Heating Power Input (kW)	4.63

Piping:

Refrigerant Charge (lbs)	7.94
Liquid Line (in, OD)	3/8
Suction Line (in, OD)	5/8
Max Pipe Length (ft) ¹	164
Max Elevation (ft)	98

Features:

- Inverter (Variable speed compressor)
- Internal condensate pump
- Swirl Wind
- Jet Cool
- Independent vane control
- Auto restart
- Auto changeover
- Ultra-quiet turbo fan
- Built-in low ambient standard, down to 14°F (cooling mode)
- Evaporator frost control

Included Accessories:

- 7-Day Programmable Controller (White) - PQRCVSL0QW
- Wireless Handheld Remote Controller - PQWRHDF0

Required Accessories (sold separately)

- ☐ Cassette Grille - PT-UMC

Optional Accessories (sold separately)

- ☐ Plasma Kit - PTPKM0
- ☐ Ventilation Kit - PTVK410+PTVK420
- ☐ Auto Elevation Kit - PTEGM0
- ☐ PI485 - PMNFP14A0

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PQRCVSL0QW



PQWRHDF0

Operating Range:

Outdoor Unit:

Cooling (°F DB)	14-115
Heating (°F WB)	5-75

Indoor Unit:

Cooling (°F DB)	64-86
Heating (°F DB)	60-86

Unit Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Indoor Unit Sound Pressure ±3 dB(A)	46/44/40
Outdoor Unit Sound Pressure ±3 dB(A)	58
Outdoor Unit Net Unit Weight (lbs)	227
Outdoor Shipping Weight (lbs)	253
Indoor Unit Net Unit Weight	57
Indoor Shipping Weight (lbs)	69
Grille Weight (lbs)	13
Grille Shipping Weight (lbs)	20

Fan:

Fan Type	Turbo
Air Circulation (CFM H/M/L)	1,200/1,130/1,060
Fan Speeds (Fan/Cooling/Heating)	4/5/4
Dehumidification (pts/hr)	3.6

Standard Features:

- Limited Five Year Compressor Warranty
- Limited Two Year Functional Parts Warranty

Notes:

1. Piping lengths are equivalent.
2. Sound pressure levels are tested in an anechoic chamber under ISO Standard 1996.
3. All communication cable to be minimum 18 American wire gage (AWG), 2-conductor, stranded, shielded and must comply with applicable local and national code.
4. This unit comes with a dry helium charge.
5. Nominal 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.
6. The voltage tolerance is ± 10%.
7. Power wiring cable size must comply with the applicable local and national code.
8. Must follow installation instructions in the applicable LG installation manual.



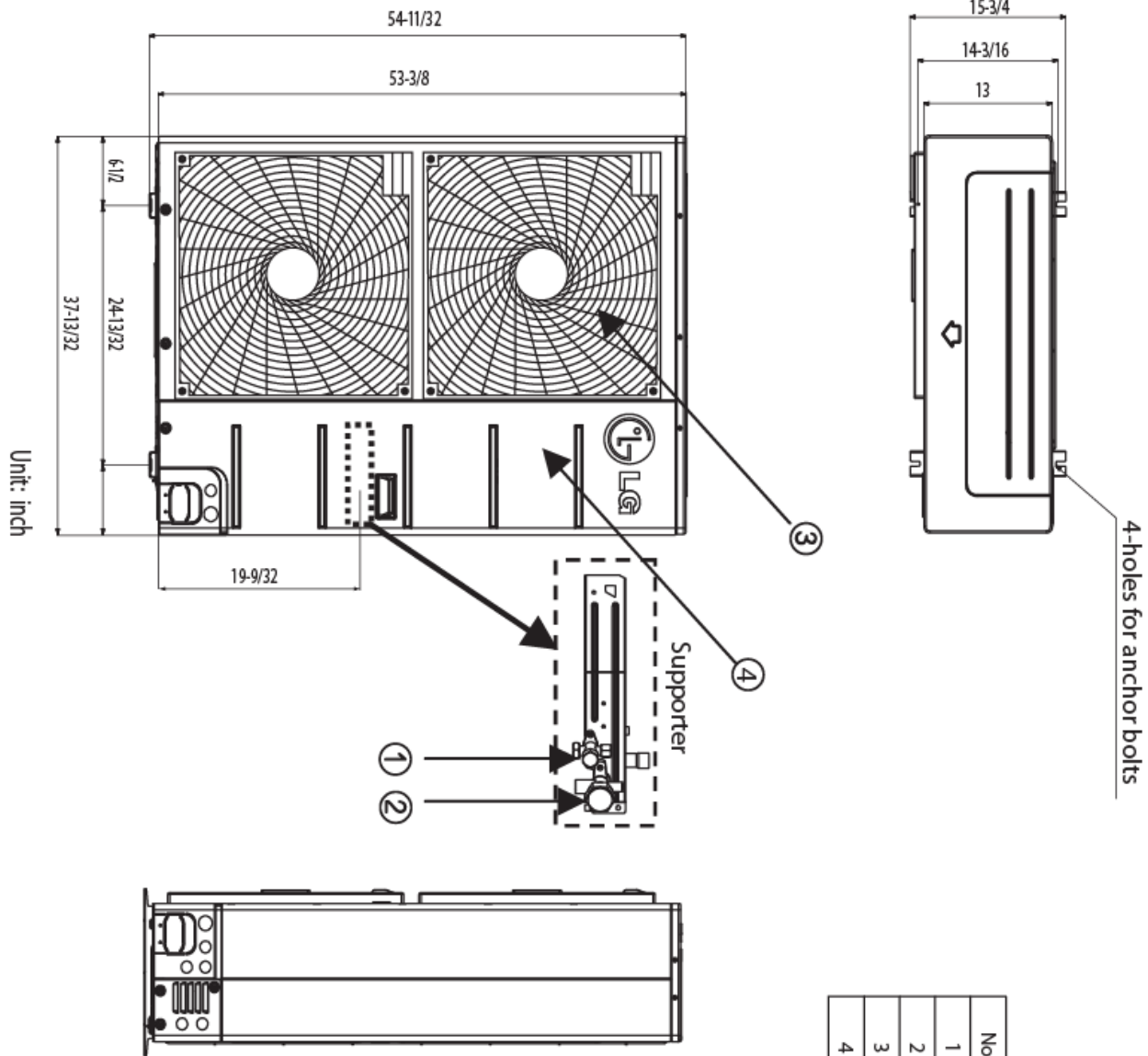
ODU-LUU426HV
Ceiling Cassette Single Zone



Tag #:SS - 2

Date:

PO No.:



No.	Part Name	Remarks
1	Air discharge grille	
2	Gas pipe connection	
3	Liquid pipe connection	
4	Power & transmission connection	

SUBMITTAL DATA: MSY-GE12NA & MUY-GE12NA

12,000 BTU/H WALL-MOUNTED AIR-CONDITIONING SYSTEMS

Job Name:	Location:	Date:
Purchaser:	Engineer:	
Submitted to:	For ☐ Reference ☐ Approval ☐ Construction	
Unit Designation:	Schedule No.:	

GENERAL FEATURES

- Wall-mounted indoor unit
- Standard Hybrid Catechin Prefilter is included with indoor unit
- Quiet operation
- Choice of fan speeds: Quiet, Low, Medium, High, and Super High; Auto fan speed control also included
- Wireless remote controller is included; PAR-21MAA wired remote controller can be installed as an option
- Indoor unit powered from outdoor unit using A-Control
- Auto restart following a power outage
- Limited warranty: five years on parts and defects and seven years on the compressor

OPTIONAL ACCESSORIES
Outdoor Unit

- Drain Socket Assembly (MAC-860DS)

Indoor Unit

- M-NET Control Adapter (MAC-399IF)
- MA Contact Terminal Interface (MAC-397IF)
- Wired Remote Controller (PAR-21MAA; requires MAC-397IF)
- Condensate Pump (230V; SI3100-230)
- Anti-allergy Enzyme Filter (Two pieces per set; MAC-408FT-E)

Cooling*

Rated Capacity 12,000 Btu/h
Minimum Capacity 3,800 Btu/h
SEER 20.5 Btu/h/W
Total Input 960 W

* Rating Conditions (Cooling) - Indoor: 80°F (27°C) DB, 67°F (19°C) WB; Outdoor: 95°F (35°C) DB, 75°F (24°C) WB.

Electrical Requirements

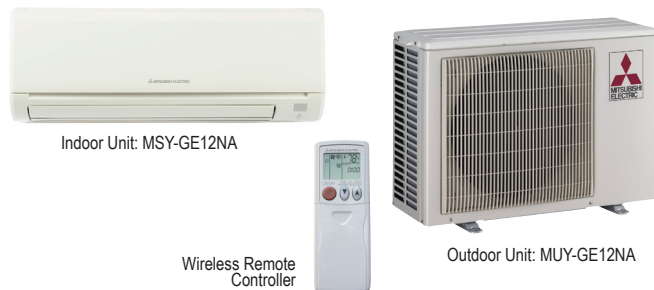
Power Supply 208 / 230V, 1-Phase, 60 Hz
Breaker Size 15 A

Voltage

Indoor - Outdoor S1-S2 AC 208 / 230V
Indoor - Outdoor S2-S3 DC 12-24V
Indoor - Remote Controller Wireless

OPERATING RANGE

		Indoor Intake Air Temp.	Outdoor Intake Air Temp.
Cooling	Maximum	90°F (32°C) DB, 73°F (23°C) WB	115°F (46°C) DB
	Minimum	67°F (19°C) DB, 57°F (14°C) WB	14°F (-10°C) DB


Indoor Unit

MCA 1 A
Fan Motor 0.76 F.L.A.
Airflow (Quiet - Lo - Med - Hi - Super Hi)
Cooling 145 - 170 - 237 - 321 - 399 Dry CFM
109 - 134 - 201 - 286 - 364 Wet CFM

Sound Pressure Level (Quiet - Lo - Med - Hi - Super Hi)
Cooling 19 - 22 - 30 - 37 - 45 dB(A)

DIMENSIONS	UNIT INCHES / MM
W	31-7/16 / 799
D	9-1/8 / 232
H	11-5/8 / 295

Weight 22 lbs. / 10 kg
External Finish Munsell No. 1.0Y 9.2 / 0.2
Field Drainpipe Size O.D. 5/8" / 15.88 mm
Remote Controller Wireless
(Optional Wired Remote Controller PAR-21MAA;
see Data Submittal Sheet)

Outdoor Unit

Compressor DC Inverter-driven
MCA 12 A
Fan Motor 0.50 F.L.A.
Sound Pressure Level
Cooling 49 dB(A)

DIMENSIONS	INCHES / MM
W	31-1/2 / 800
D	11-1/4 / 286
H	21-5/8 / 549

Weight 77 lbs. / 35 kg
External Finish Munsell No. 3Y 7.8 / 1.1

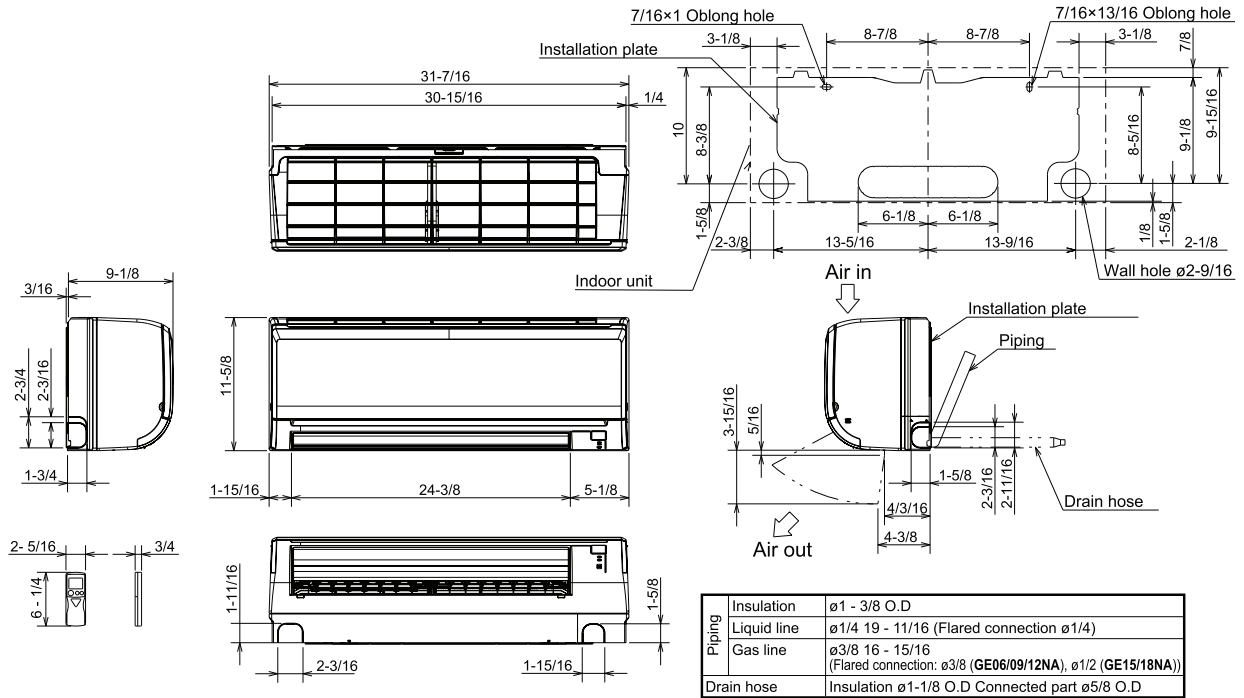
Refrigerant Type R410A
Refrigerant Pipe Size O.D.
Gas Side 3/8" / 9.52 mm
Liquid Side 1/4" / 6.35 mm
Max. Refrigerant Pipe Length 65 ft. / 20 m
Max. Refrigerant Pipe Height Difference 40 ft. / 12 m
Connection Method Flared



DIMENSIONS: MSY-GE12NA & MUY-GE12NA

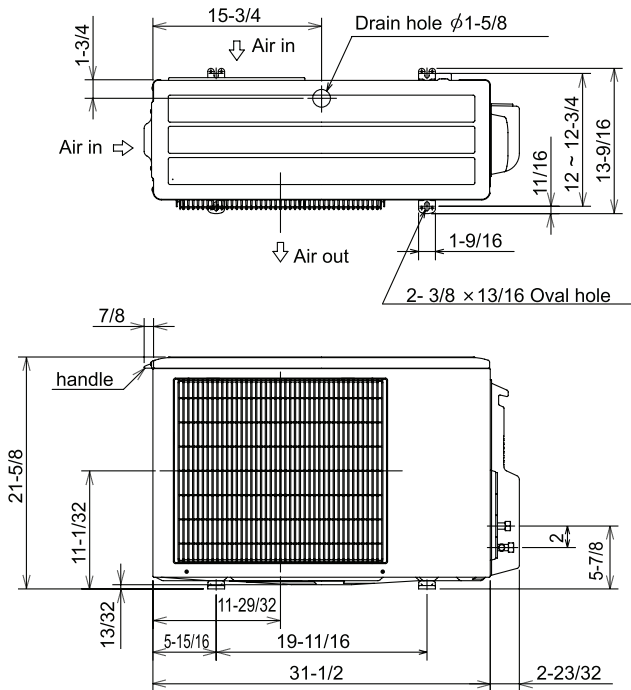
MSY-GE12NA

Unit: inch

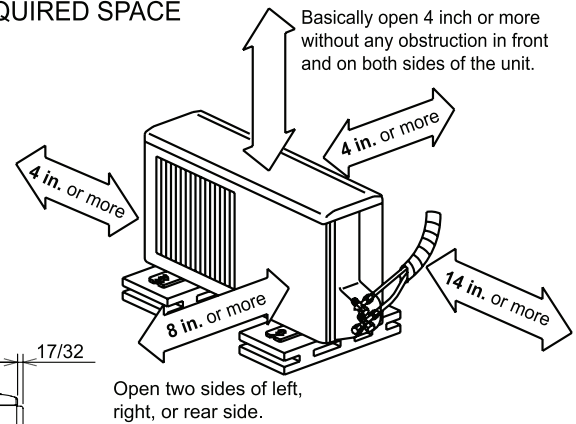


MUY-GE12NA

Unit: inch



REQUIRED SPACE



HVAC Advanced Products Division
 3400 Lawrenceville Suwanee Rd
 Suwanee, GA 30024
 Tele: 678-376-2900 • Fax: 800-889-9904
 Toll Free: 800-433-4822 (#3)
 www.mehvac.com
 Specifications are subject to change without notice.

Date:	For: ☐ File ☐ Resubmit
PO No.:	☐ Approval ☐ Other _____
Architect:	GC:
Engr:	Mech:
Rep:	
(Company)	(Project Manager)

**LS121HSV2**

High Efficiency Single Zone Inverter

ODU - LSU121HSV2 IDU - LSN121HSV2

Performance:**Cooling:**

Capacity (Btu/h)	11,200
SEER	20.0
EER	12.5

SEER - Seasonal Energy Efficiency Ratio EER - Energy Efficiency Ratio

Heating:

Capacity (Btu/h)	13,300
HSPF	11.0

HSPF - Heating Seasonal Performance Factor

Cooling Nominal Test Conditions: Heating Nominal Test Conditions:

Indoor: 80°F DB/67°F WB

Indoor: 70°F DB/60°F WB

Outdoor: 95°F DB/75°F WB

Outdoor: 47°F DB/43°F WB

Electrical:**Outdoor Unit:**

Power Supply (V/Hz/Ø)	208-230/60/1
MOP (A)	15
MCA (A)	10.0
Cooling Rated Amps (A)	7.3
Heating Rated Amps (A)	8.1
Compressor (A)	7.6
Fan Motor (A)	0.25

MOP - Maximum Overcurrent Protection MCA - Minimum Circuit Ampacity

Indoor Unit:

Power Supply (V/Hz/Ø)	208-230/60/1
Cooling Power Input (kW)	0.90
Heating Power Input (kW)	1.0

Piping:

Liquid Line (in, OD)	1/4
Vapor Line (in, OD)	3/8
Additional Refrigerant (oz/ft)	0.22
Max Pipe Length (ft) ¹	65
Piping Length (no add'l refrigerant, ft)	41
Max Elevation (ft)	32

Controls Features:

- 24-Hour on/off timer
- 4-Way auto swing
- Auto changeover
- Auto restart
- Built-in low ambient standard, down to 14°F (cooling mode)
- Chaos wind
- Condensate Sensor Connection
- Energy saving
- Inverter (variable speed compressor)
- Jet cool/Jet heat
- Plasma air purifying system
- Self-cleaning indoor coil
- Sleep mode
- Ultra quiet operation

Optional Accessories (sold separately)

- ☐ 7-Day Programmable Controller (Black) - PQRCVSL0
- ☐ 7-Day Programmable Controller (White) - PQRCVSL0QW
- ☐ Low Ambient Wind Baffle (Cooling operation to 0°F) - ZLABGP01A

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Operating Range:**Outdoor Unit:**

Cooling (°F DB)	14-118
Heating (°F WB)	5-75

Indoor Unit:

Cooling (°F DB)	64-86
Heating (°F DB)	60-86

Unit Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Refrigerant Charge (lbs)	2.21
ODU Sound Pressure (±3 dB(A)) ²	45
IDU Sound Pressure (±3 dB(A)) ²	39/33/24
ODU Net Unit Weight (lbs)	77.2
ODU Shipping Weight (lbs)	81.6
IDU Net Unit Weight	22.1
IDU Shipping Weight (lbs)	26.5
Heat Exchanger Coating	GoldFin™
Communication Cable (No x AWG) ³	4 x 18

Fan:

ODU Type	Propeller
IDU Type	Cross Flow
Fan Speeds (Fan/Cooling/Heating)	6/Auto/Chaos
Quantity (ODU + IDU)	1 + 1
Motor/Drive	Brushless Digitally Controlled/Direct
ODU Max Air Flow Rate (CFM)	1,165
IDU Max Air Flow H/M/L (CFM)	350/280/210
Dehumidification (pts/hr)	3.0

Notes:

- 1.Piping lengths are equivalent.
- 2.Sound Pressure levels are tested in an anechoic chamber under ISO Standard 1996.
- 3.All communication cable to be minimum 18 AWG, 2-conductor, stranded, shielded and must comply with applicable local and national code.
- 4.See Engineering Manual for sensible and latent capacities.
- 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 24.6 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.

Standard Features:

- Limited Five Year Compressor Warranty
- Limited Two Year Functional Parts Warranty



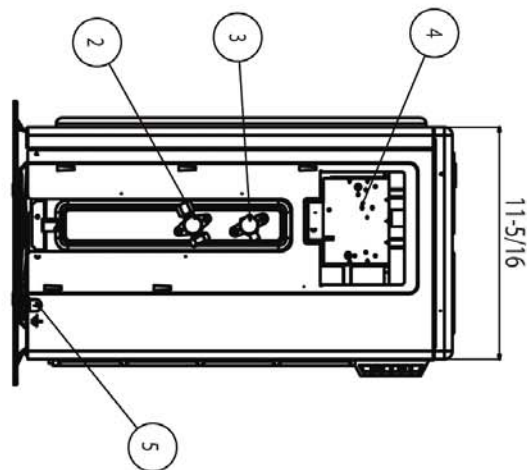
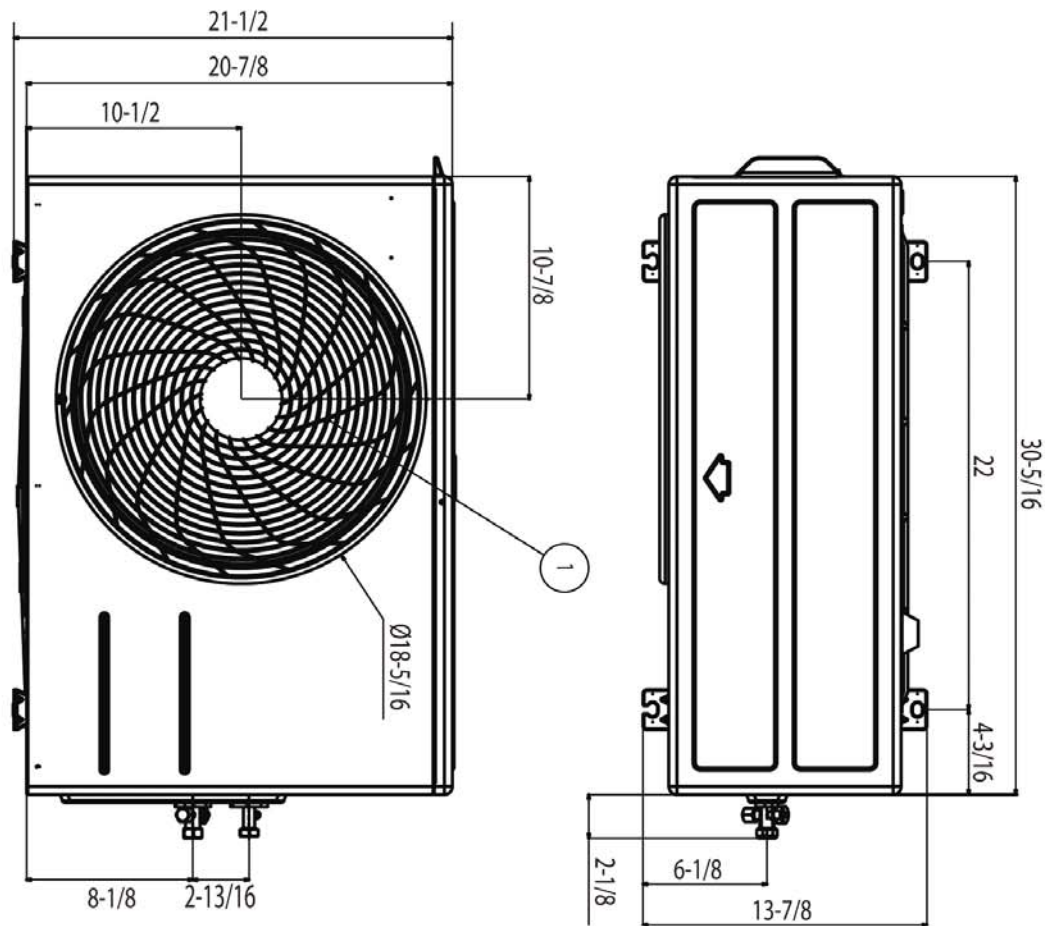
ODU - LSU121HSV2
High Efficiency Single Zone Inverter



Tag #: SS-3

Date:

PO No.:



Unit: inch

Item No.	Part Name	Remarks
1	Air Discharge Grille	
2	Gas Pipe Connection Port	
3	Liquid Pipe Connection Port	
4	Control Box	
5	Earth Screw	

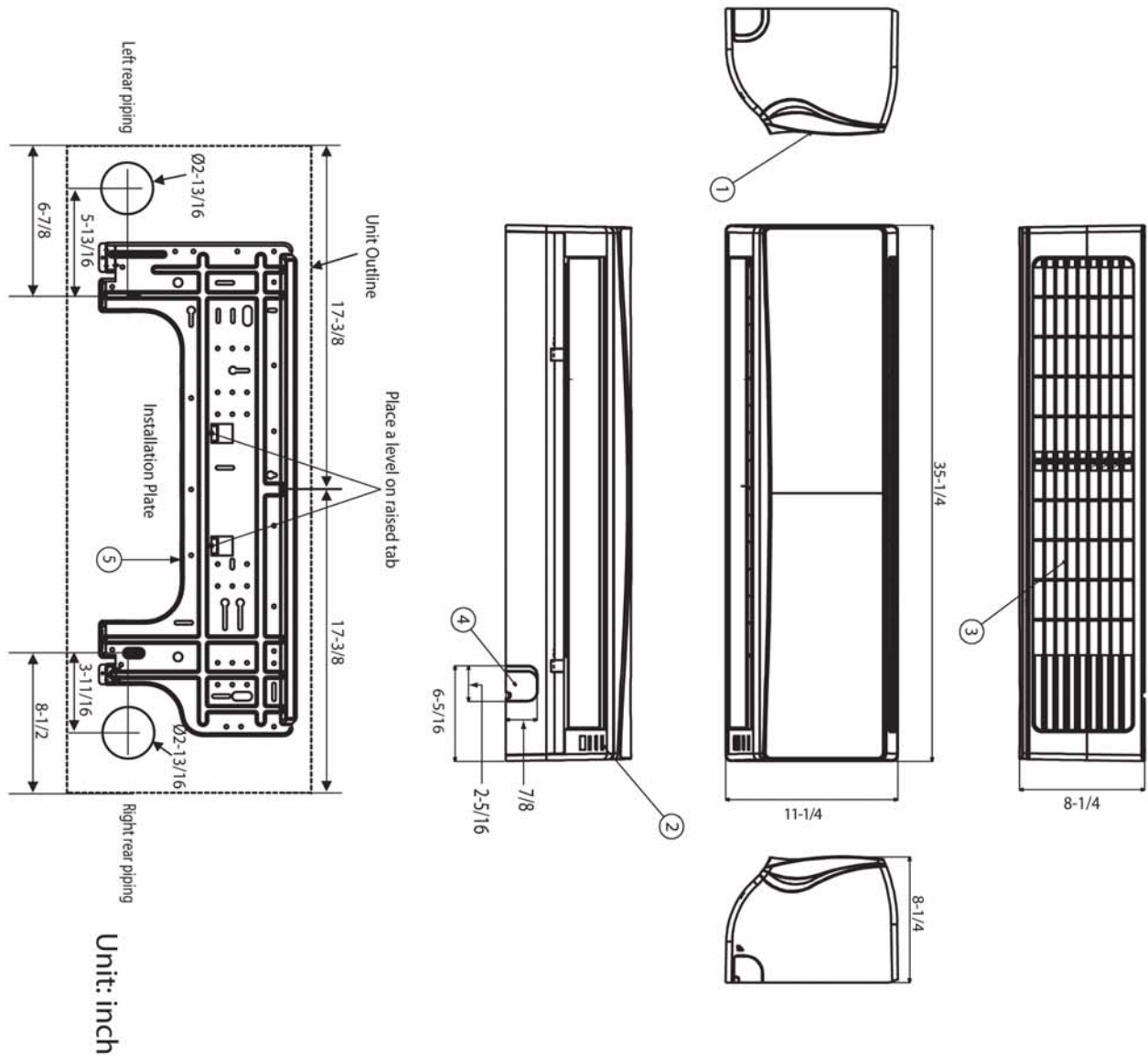
IDU - LSN121HSV2
High Efficiency Single Zone Inverter



Tag #: SS - 3

Date:

PO No.:



Item No.	Part Name	Remarks
1	Front Panel	
2	Display & Signal Receiver	
3	Air Suction Grille	
4	Knockout hole	For pipe and cable
5	Installation Plate	

SUBMITTAL DATA: MSY-GE15NA & MUY-GE15NA

15,000 BTU/H WALL-MOUNTED AIR-CONDITIONING SYSTEMS

Job Name:	Location:	Date:
Purchaser:	Engineer:	
Submitted to:	For ☐ Reference ☐ Approval ☐ Construction	
Unit Designation:	Schedule No.:	

GENERAL FEATURES

- Wall-mounted indoor unit
- Standard Hybrid Catechin Prefilter is included with indoor unit
- Quiet operation
- Choice of fan speeds: Quiet, Low, Medium, High, and Super High; Auto fan speed control also included
- Wireless remote controller is included; PAR-21MAA wired remote controller can be installed as an option
- Indoor unit powered from outdoor unit using A-Control
- Auto restart following a power outage
- Limited warranty: five years on parts and defects and seven years on the compressor

OPTIONAL ACCESSORIES
Outdoor Unit

- Drain Socket Assembly (MAC-860DS)

Indoor Unit

- M-NET Control Adapter (MAC-399IF)
- MA Contact Terminal Interface (MAC-397IF)
- Wired Remote Controller (PAR-21MAA; requires MAC-397IF)
- Condensate Pump (230V; SI3100-230)
- Anti-allergy Enzyme Filter (Two pieces per set; MAC-408FT-E)

Cooling*

Rated Capacity 14,000 Btu/h
Minimum Capacity 3,100 Btu/h
SEER 21.0 Btu/h/W
Total Input 1,080 W
* Rating Conditions (Cooling) - Indoor: 80°F (27°C) DB, 67°F (19°C) WB; Outdoor: 95°F (35°C) DB, 75°F (24°C) WB.

Electrical Requirements

Power Supply 208 / 230V, 1-Phase, 60 Hz
Breaker Size 15 A

Voltage

Indoor - Outdoor S1-S2 AC 208 / 230V
Indoor - Outdoor S2-S3 DC 12-24V
Indoor - Remote Controller Wireless

OPERATING RANGE

		Indoor Intake Air Temp.	Outdoor Intake Air Temp.
Cooling	Maximum	90°F (32°C) DB, 73°F (23°C) WB	115°F (46°C) DB
	Minimum	67°F (19°C) DB, 57°F (14°C) WB	14°F (-10°C) DB



Indoor Unit: MSY-GE15NA



Outdoor Unit: MUY-GE15NA


Wireless Remote
Controller

Indoor Unit

MCA 1 A
Fan Motor 0.76 F.L.A.
Airflow (Quiet - Lo - Med - Hi - Super Hi)
Cooling 205 - 272 - 335 - 420 - 533 Dry CFM
170 - 237 - 300 - 385 - 498 Wet CFM

Sound Pressure Level (Quiet - Lo - Med - Hi - Super Hi)

Cooling 26 - 32 - 38 - 44 - 49 dB(A)

DIMENSIONS	UNIT INCHES / MM
W	31-7/16 / 799
D	9-1/8 / 232
H	11-5/8 / 295

Weight 22 lbs. / 10 kg
External Finish Munsell No. 1.0Y 9.2 / 0.2
Field Drainpipe Size O.D. 5/8" / 15.88 mm
Remote Controller Wireless
(Optional Wired Remote Controller PAR-21MAA;
see Data Submittal Sheet)

Outdoor Unit

Compressor DC Inverter-driven Twin Rotary
MCA 12 A
Fan Motor 0.50 F.L.A.
Sound Pressure Level
Cooling 49 dB(A)

DIMENSIONS	INCHES / MM
W	31-1/2 / 800
D	11-1/4 / 286
H	21-5/8 / 549

Weight 80 lbs. / 37 kg
External Finish Munsell No. 3Y 7.8 / 1.1

Refrigerant Type R410A
Refrigerant Pipe Size O.D.

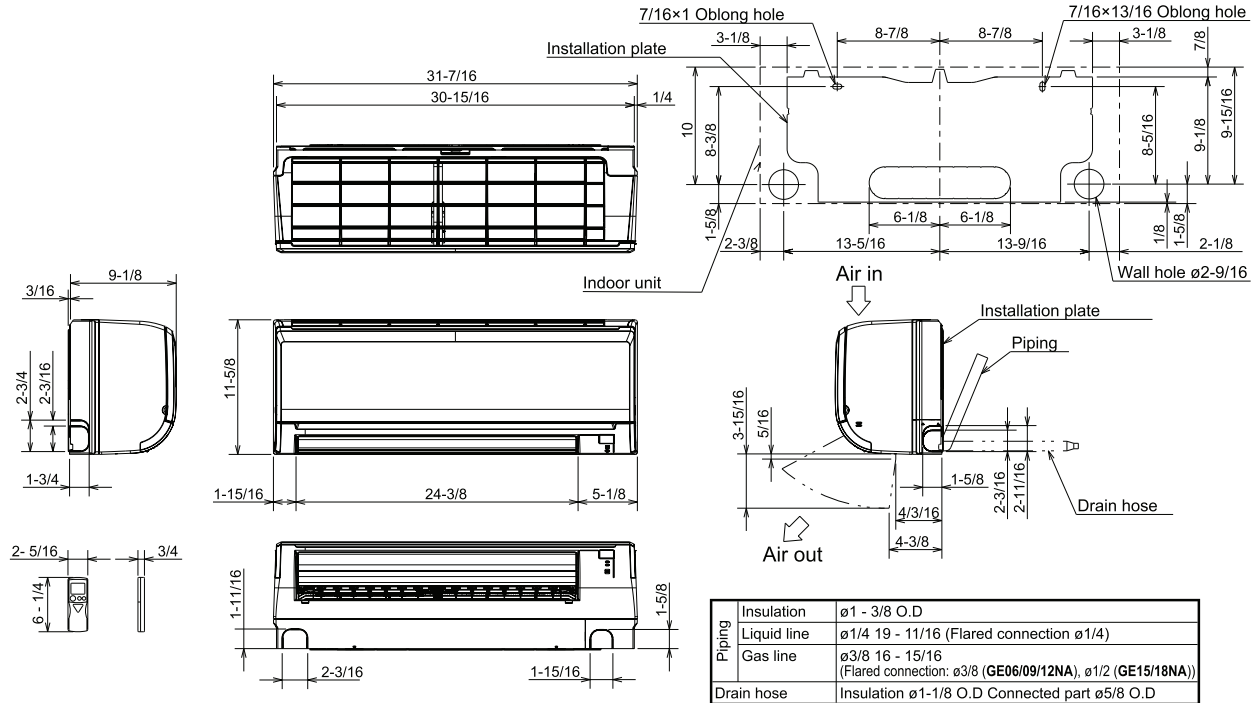
Gas Side 1/2" / 12.7 mm
Liquid Side 1/4" / 6.35 mm
Max. Refrigerant Pipe Length 65 ft. / 20 m
Max. Refrigerant Pipe Height Difference 40 ft. / 12 m
Connection Method Flared



DIMENSIONS: MSY-GE15NA & MUY-GE15NA

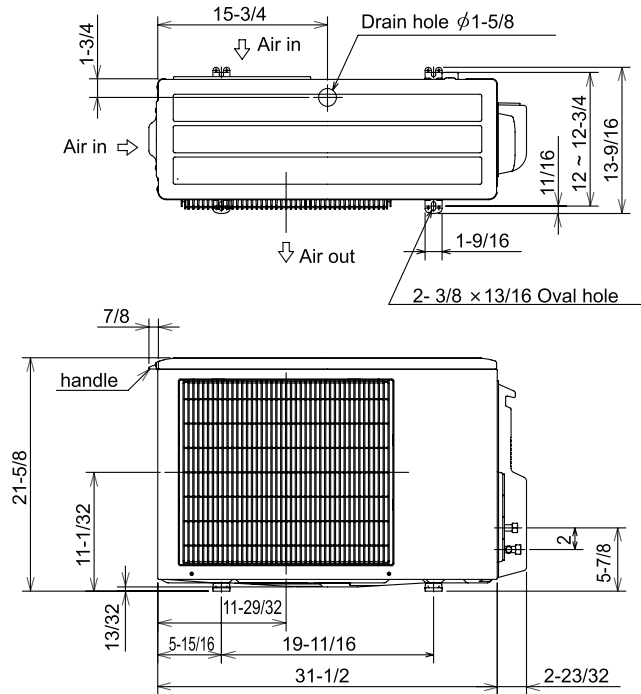
MSY-GE15NA

Unit: inch

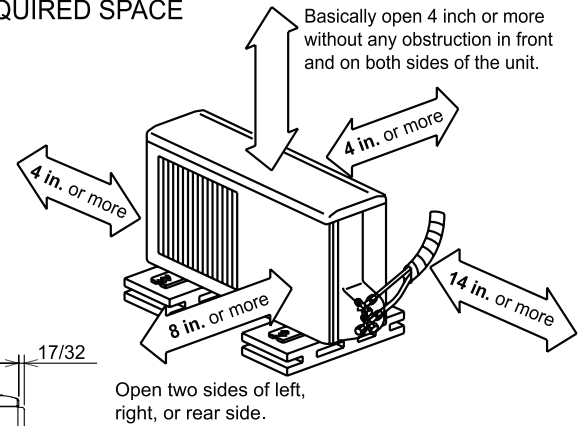


MUY-GE15NA

Unit: inch



REQUIRED SPACE



HVAC Advanced Products Division

3400 Lawrenceville Suwanee Rd
Suwanee, GA 30024

Tele: 678-376-2900 • Fax: 800-889-9904

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Specifications are subject to change without notice.



Date:

For: ☐ File ☐ Resubmit

PO No.:

☐ Approval ☐ Other _____

Architect:

GC:

Engr:

Mech:

Rep:

(Company)

(Project Manager)

LS181HSV2

High Efficiency Single Zone Inverter

ODU - LSU181HSV2 IDU - LSN181HSV2

Performance:**Cooling:**

Capacity (Btu/h)	18,200
SEER	20.5
EER	12.6

SEER - Seasonal Energy Efficiency Ratio EER - Energy Efficiency Ratio

Heating:

Capacity (Btu/h)	22,000
HSPF	9.7

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:**Outdoor Unit:**

Power Supply (V/Hz/Ø)	208-230/60/1
MOP (A)	30
MCA (A)	19.0
Cooling Rated Amps (A)	15.4
Heating Rated Amps (A)	15.4
Compressor (A)	14.6
Fan Motor (A)	0.25

MOP - Maximum Overcurrent Protection MCA - Minimum Circuit Ampacity

Indoor Unit:

Power Supply (V/Hz/Ø)	208-230/60/1
Cooling Power Input (kW)	1.45
Heating Power Input (kW)	1.76

Piping:

Liquid Line (in, OD)	3/8
Vapor Line (in, OD)	5/8
Additional Refrigerant (oz/ft)	0.38
Max Pipe Length (ft) ¹	98
Piping Length (no add'l refrigerant, ft)	25
Max Elevation (ft)	49

Controls Features:

- 24-Hour on/off timer
- 4-Way auto swing
- Auto changeover
- Auto restart
- Built-in low ambient standard, down to 14°F (cooling mode)
- Chaos wind
- Condensate Sensor Connection
- Energy saving
- Inverter (variable speed compressor)
- Jet cool/Jet heat
- Plasma air purifying system
- Self-cleaning indoor coil
- Sleep mode
- Ultra quiet operation

Optional Accessories (sold separately)

- ☐ 7-Day Programmable Controller (Black) - PQRCVSL0
- ☐ 7-Day Programmable Controller (White) - PQRCVSL0QW
- ☐ Low Ambient Wind Baffle (Cooling operation to 0°F) - ZLABGP02A
- ☐ PI485 - PMNFP14A0

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**Operating Range:****Outdoor Unit:**

Cooling (°F DB)	14-118
Heating (°F WB)	5-75

Indoor Unit:

Cooling (°F DB)	64-86
Heating (°F DB)	60-86

Unit Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Refrigerant Charge (lbs)	3.97
ODU Sound Pressure (±3 dB(A)) ²	53
IDU Sound Pressure (±3 dB(A)) ²	45/40/35
ODU Net Unit Weight (lbs)	132.3
ODU Shipping Weight (lbs)	141.1
IDU Net Unit Weight	30.9
IDU Shipping Weight (lbs)	40.1
Heat Exchanger Coating	GoldFin™
Communication Cable (No x AWG) ³	4 X 18

Fan:

ODU Type	Propeller
IDU Type	Cross Flow
Fan Speeds (Fan/Cooling/Heating)	6/Auto/Chaos
Quantity (ODU + IDU)	1 + 1
Motor/Drive	Brushless Digitally Controlled/Direct
ODU Max Air Flow Rate (CFM)	2,119
IDU Max Air Flow H/M/L (CFM)	600/510/420
Dehumidification (pts/hr)	5.5

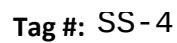
Notes:

1. Piping lengths are equivalent.
2. Sound Pressure levels are tested in an anechoic chamber under ISO Standard 1996.
3. All communication cable to be minimum 18 AWG, 2-conductor, stranded, shielded and must comply with applicable local and national code.
4. See Engineering Manual for sensible and latent capacities.
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 24.6 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.

Standard Features:

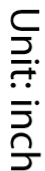
- Limited Five Year Compressor Warranty
- Limited Two Year Functional Parts Warranty





Date:

PO No.:



Item No.	Part Name	Remarks
1	Air discharge grille	
2	Gas pipe connection	
3	Liquid pipe connection	
4	Power & Transmission connection	
5	Earth screw	
6	SVC valve cover	

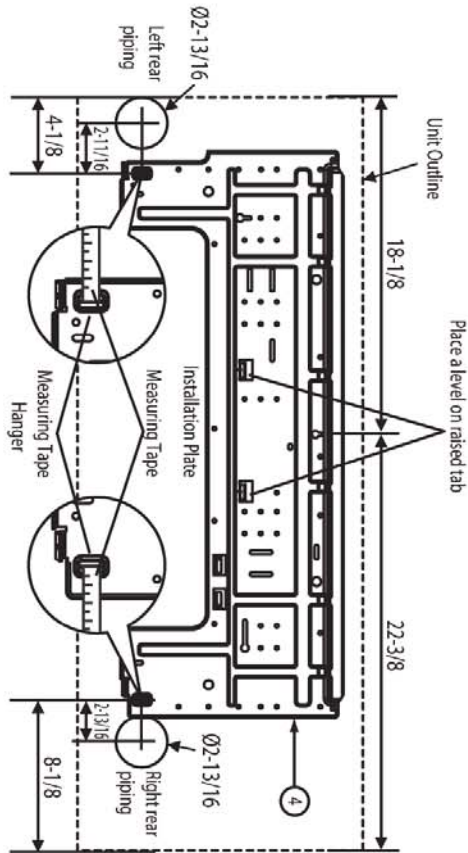
IDU - LSN181HSV2
High Efficiency Single Zone Inverter



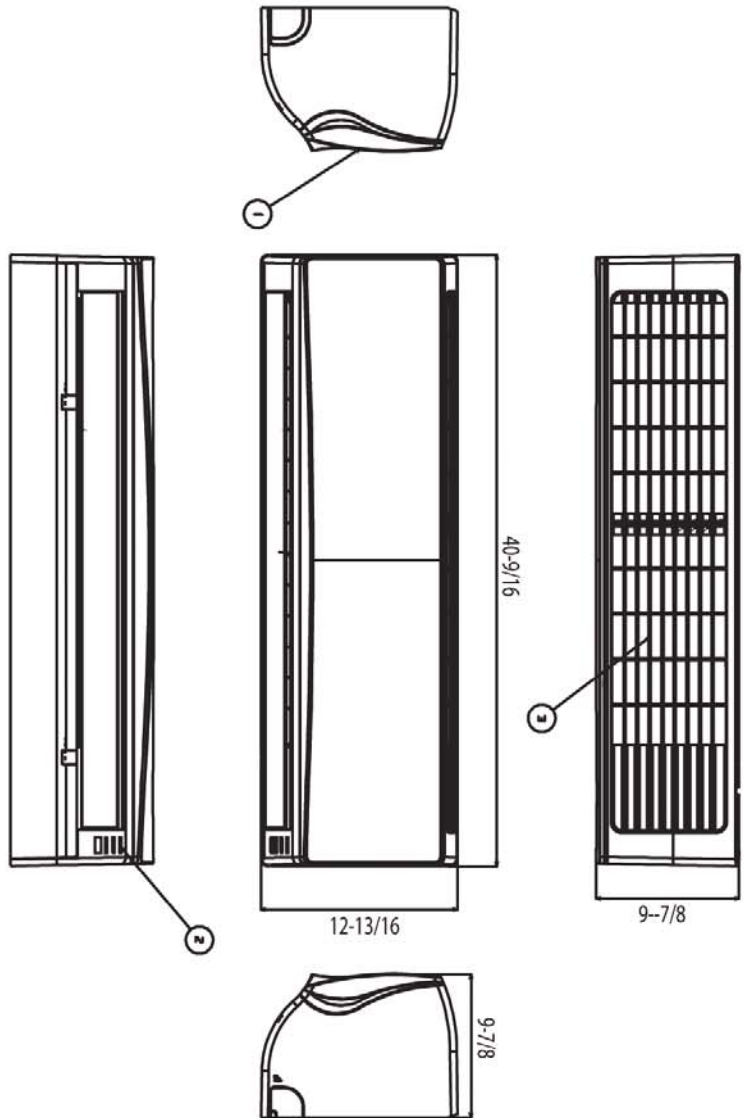
Tag #: SS - 4

Date:

PO No.:



Unit: inch



Item No.	Part Name	Remarks
1	Front Panel	
2	Display & Signal Receiver	
3	Air Suction Grille	
4	Installation Plate	



18,000 BTU/H CEILING CASSETTE AIR-CONDITIONING SYSTEM

Date:

Engineer:

For ☐ Reference ☐ Approval ☐ Construction

Schedule No.:

- Compact side-discharge outdoor unit
- Quiet operation—indoor and outdoor units
- Built-in drain lift mechanism for condensate removal; lifts to 33-7/16 in.
- Wide air flow pattern for better air distribution
- Auto wave airflow in heating mode—unit independently cycles through horizontal and vertical positions for more even heat distribution
- Independent vane adjustment
- Automatic fan speed control
- Self-check function—integrated diagnostics
- Advanced microprocessor control
- Hard-wired, wall-mounted, remote controller (PAR-21MAA)
- Limited warranty: five years on parts and defects and seven years on compressors

- Multi-function Casement (PAC-SH53TM-E)
- Air Outlet Shutter Plates (PAC-SH51SP-E)
- Wireless Signal Receiver (PAR-SA9FA-E)
- Wireless Remote Controller (PAR-FL32MA)
- i-sense Sensor Corner Panel (PAC-SA1ME-E)
- High-efficiency (MERV 10) Filter (PAC-SH59KF-E)

- M-NET Adapter (PAC-SF80MA-E)
- Air Outlet Guide (PAC-SG58SG-E)
- Wind Baffle (WB-PA1)

Rated Capacity	18,000 Btu/h
Minimum Capacity	8,000 Btu/h
SEER	14.2 Btu/h/W
Total Input	1,940 W
Power Supply	208 / 230V, 1-Phase, 60 Hz
Breaker Size	15 A

* Rating Conditions (Cooling) - Indoor: 80°F (27°C) DB, 67°F (19°C) WB.
Outdoor: 95°F (35°C) DB, 75°F (24°C) WB.

Indoor - Outdoor S1-S2	AC 208 / 230V
Indoor - Outdoor S2-S3	DC 24V
Indoor - Remote Controller	DC 12V

		Indoor Intake Air Temp.	Outdoor Intake Air Temp.
Cooling	Maximum	95°F (35°C) DB, 71°F (22°C) WB	115°F (46°C) DB
	Minimum	67°F (19°C) DB, 57°F (14°C) WB	0°F** (-18°C) DB




Remote Controller:
PAR-21MAA



Indoor Unit: PLA-A18BA

Outdoor Unit: PUY-A18NHA

MCA	1 A
Fan Motor	0.51 F.L.A.
Fan Motor Output	50 W
Airflow (Lo - M1 - M2 - Hi)	420 - 490 - 570 - 640 Dry CFM
	390 - 460 - 530 - 600 Wet CFM
Sound Level (Lo - M1 - M2 - Hi)	28 - 29 - 31 - 32 dB(A)

DIMENSIONS	UNIT INCHES / MM	PANEL INCHES / MM
W	33-1/16 / 840	37-3/8 / 950
D	33-1/16 / 840	37-3/8 / 950
H	10-3/16 / 258	1-3/8 / 35

Lbs.	49 / 13
kg	22 / 6
Field Drainpipe Size O.D.	1-1/4" / 32 mm
Wall-mounted Remote Controller	PAR-21MAA
	(See Data Submittal Sheet)

Compressor	DC Inverter-driven Rotary
MCA	13 A
Fan Motor	0.35 F.L.A.
Sound Pressure Level	46 dB(A)

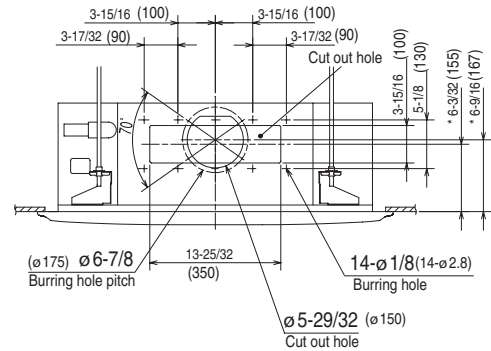
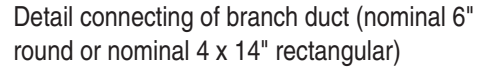
DIMENSIONS	INCHES / MM
W	31-1/2 / 800
D	13 + 7/8 / 330 + 23
H	23-5/8 / 600

Weight	.97 lbs. / 44 kg
Refrigerant Type	R410A
Refrigerant Pipe Size O.D.	
Gas Side	1/2" / 12.7 mm
Liquid Side	1/4" / 6.35 mm
Max. Refrigerant Pipe Length	100' / 30 m
Max. Refrigerant Pipe Height Difference	100' / 30 m
Connection Method	Flared

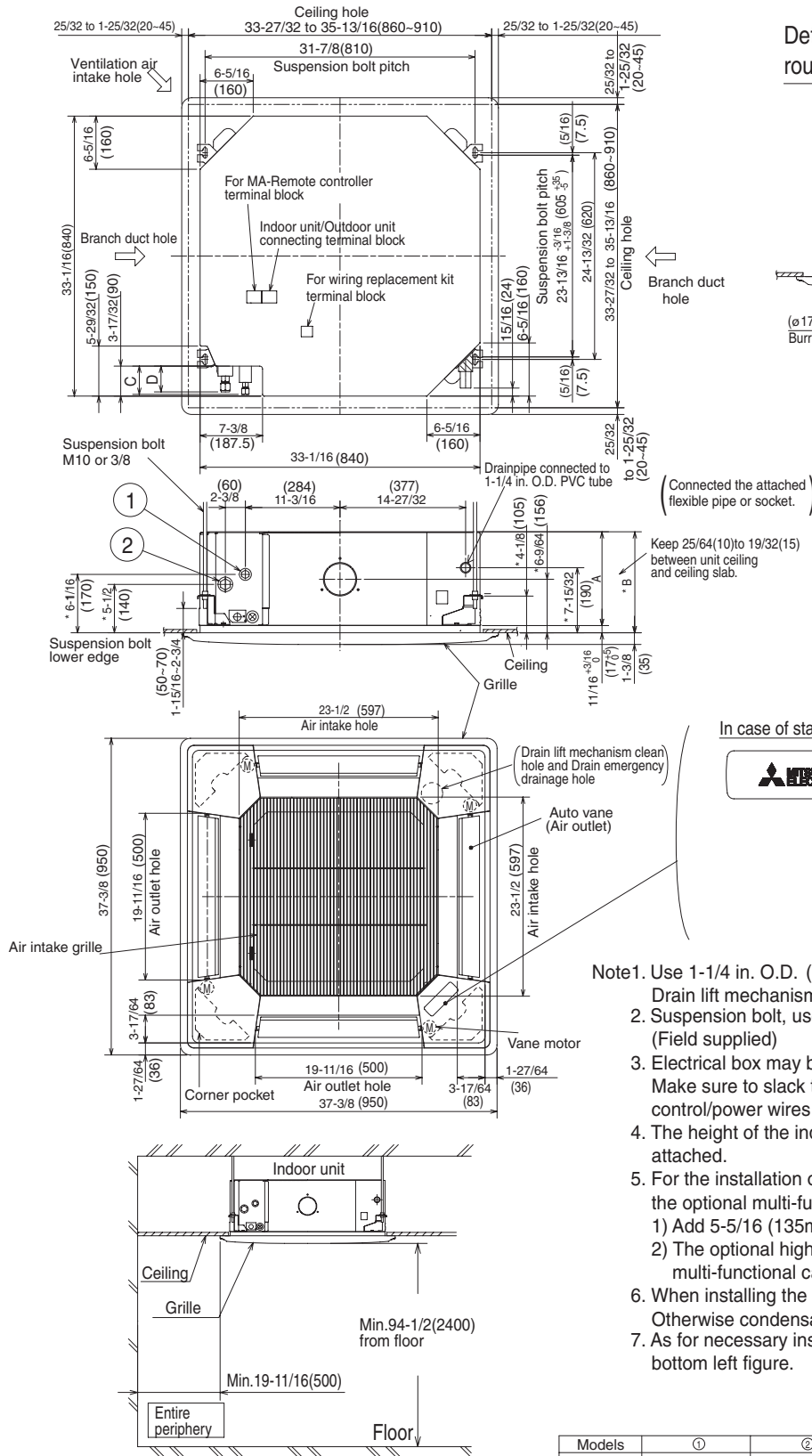
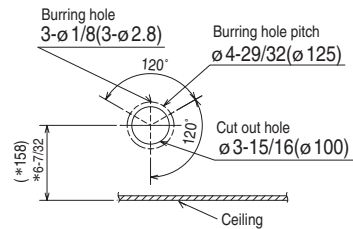


DIMENSIONS: PLA-A18BA

Unit : inch(mm)

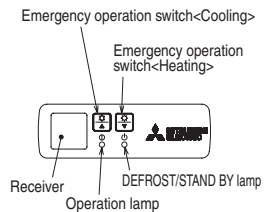


Detail drawing of ventilation air intake connection



In case of standard grille

In case of wireless remote controller

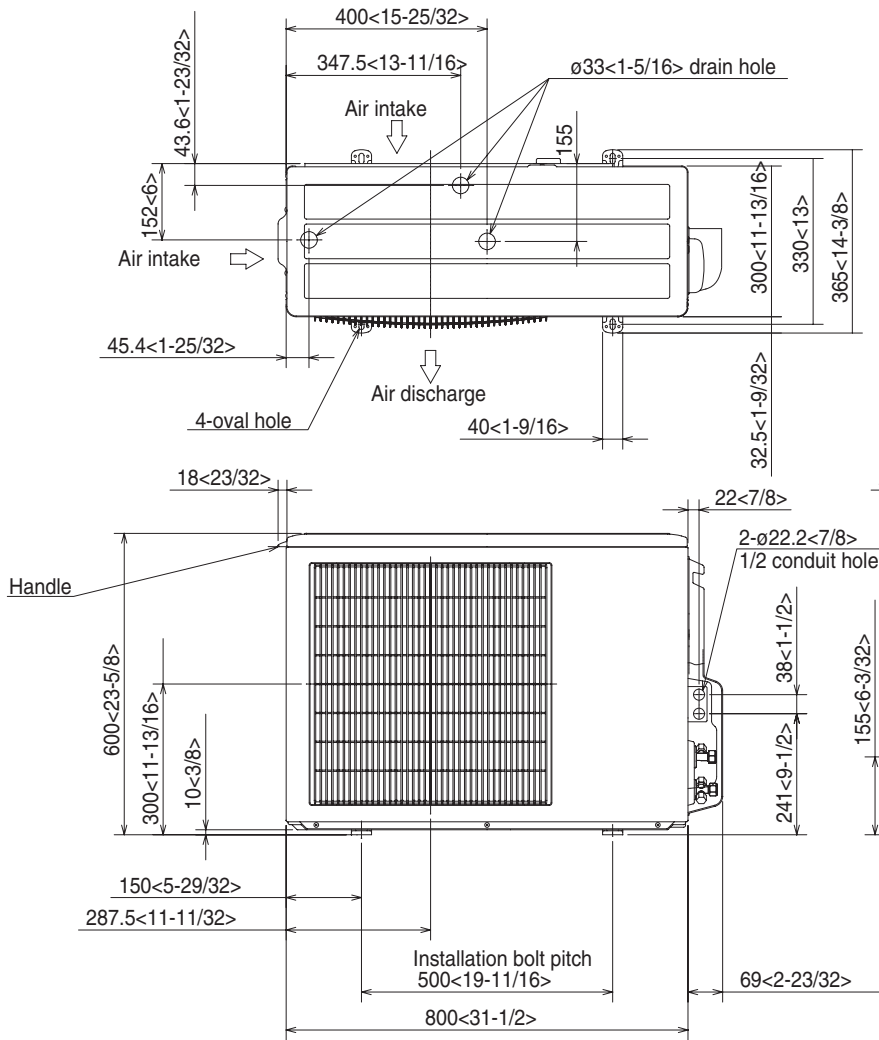


- Note 1. Use 1-1/4 in. O.D. (32) PVC TUBE.
Drain lift mechanism is included.
2. Suspension bolt, use M10 or W3/8.
(Field supplied)
3. Electrical box may be removed for service purposes.
Make sure to slack the electrical wire little bit for control/power wires connection.
4. The height of the indoor unit is adjustable with the grille attached.
5. For the installation of the optional high efficiency filter, the optional multi-functional casement is required.
 - 1) Add 5-5/16 (135mm) to the dimensions marked with an * in the figures
 - 2) The optional high efficiency filter required optional multi-functional casement.
6. When installing the branch ducts, be sure to insulate adequately.
Otherwise condensation may occur.
7. As for necessary installation/service space, please refer to the bottom left figure.

Models	①	②	A	B	C	D
PLA-A12BA PLA-A18BA	Refrigerant pipe ---ø 6.35mm Flared connection ---1/4	Refrigerant pipe ---ø 12.7mm Flared connection ---1/2	9-1/2 (241)	10-3/16 (258)	3-5/32 (80)	2-29/32 (74)
PLA-A24BA PLA-A30BA	Refrigerant pipe ---ø 9.52mm Flared connection ---3/8	Refrigerant pipe ---ø 15.88mm Flared connection ---5/8	11-1/16 (281)	11-3/4 (298)	31-3/32 (85)	3-1/2 (77)
PLA-A36BA PLA-A42BA						

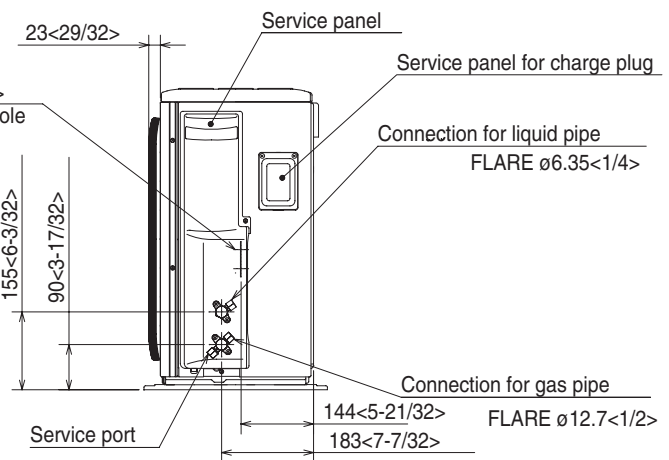
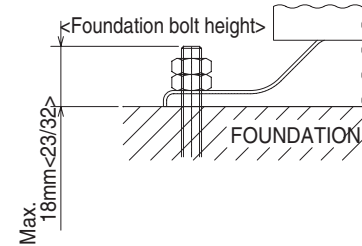
DIMENSIONS: PUY-A18NHA

Unit : mm<inch>

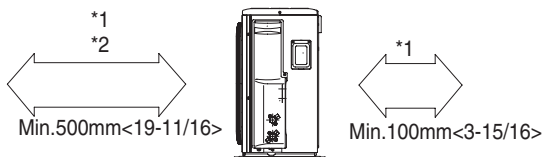
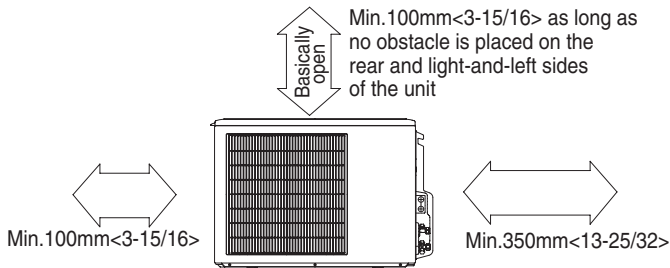


FOUNDATION BOLTS

Please secure the unit firmly with 4 foundation M10<W3/8> bolts. (Bolts, washers and nut must be purchased locally.)



Clearance space needed around the outdoor unit



2 sides should be open in the right, left and rear side.

PIPING-WIRING DIRECTION

Piping and wiring connection can only be made from the back.

Minimum installation space for outdoor unit

If the unit is installed in a place where short cycle can occur, cooling and heating capacity might be reduced by 10%. Using an air outlet guide (PAC-SG58SG-E) will help deflect exhaust air and improve performance.

Date:

PO No.:

Architect:

Engr:

Rep:

(Company)

For: ☐ File ☐ Resubmit☐ Approval ☐ Other _____

GC:

Mech:

(Project Manager)

LC246HV

Ceiling Cassette Single Zone

ODU-LUU246HV IDU-LCN246HV

Performance:

Cooling Capacity (Btu/h)	23,000
Heating Capacity (Btu/h)	25,000
SEER	14
EER	9.8/9.2
HSPF	7.7

SEER - Seasonal Energy Efficiency Ratio EER - Energy Efficiency Ratio
HSPF - Heating Seasonal Performance Factor**Electrical:****Outdoor Unit:**

Power Supply (V/Hz/Ø)	208-230/60/1
MOP (A)	25
MCA (A)	17.6
Cooling Rated Amps (A)	11.0
Heating Rated Amps (A)	16.1
Compressor (A)	13.1
Fan (A)	0.6

MOP - Maximum Overcurrent Protection MCA - Minimum Circuit Ampacity

Indoor Unit:

Power Supply (V/Hz/Ø)	208-230/60/1
Cooling Power Input (kW)	2.5
Heating Power Input (kW)	2.55

Piping:

Refrigerant Charge (lbs)	4.41
Liquid Line (in, OD)	3/8
Suction Line (in, OD)	5/8
Max Pipe Length (ft) ¹	98
Max Elevation (ft)	66

Features:

- Inverter (Variable speed compressor)
- Internal condensate pump
- Swirl Wind
- Jet Cool
- Independent vane control
- Evaporator frost control
- Auto restart
- Auto changeover
- Ultra-quiet turbo fan
- Built-in low ambient standard, down to 14°F (cooling mode)

Included Accessories:

- 7-Day Programmable Controller (White) - PQRCVSL0QW
- Wireless Handheld Remote Controller – PQWRHDF0

Required Accessories (sold separately)

- ☐ Cassette Grille (PT-UMC)

Optional Accessories (sold separately):

- ☐ Plasma Kit (PTPKM0)
- ☐ Ventilation Kit (PTVK410+PTVK420)
- ☐ Auto Elevation Kit (PTEGM0)

For continual product development, LG reserves the right to change specifications without notice.

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PQRCVSL0QW



PQWRHDF0

Operating Range:**Outdoor Unit:**

Cooling (°F DB)	14-115
Heating (°F WB)	5-75

Indoor Unit:

Cooling (°F DB)	64-86
Heating (°F DB)	60-86

Unit Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Indoor Unit Sound Pressure ±3 dB(A)	39/37/34
Outdoor Unit Sound Pressure ±3 dB(A)	55
Outdoor Unit Net Unit Weight (lbs)	132
Outdoor Shipping Weight (lbs)	141
Indoor Unit Net Unit Weight	46
Indoor Shipping Weight (lbs)	55
Grille Weight (lbs)	13
Grille Shipping Weight (lbs)	20

Fan:

Fan Type	Turbo
Air Circulation (CFM H/M/L)	636/565/494
Fan Speeds (Fan/Cooling/Heating)	4/5/4
Dehumidification (pts/hr)	2.1

Standard Features:

- Limited Five Year Compressor Warranty
- Limited Two Year Functional Parts Warranty

Notes:

1. Piping lengths are equivalent.
2. Sound pressure levels are tested in an anechoic chamber under ISO Standard 1996.
3. All communication cable to be minimum 18 American wire gage (AWG), 2-conductor, stranded, shielded and must comply with applicable local and national code.
4. This unit comes with a dry helium charge.
5. Nominal 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.
6. The voltage tolerance is ± 10%.
7. Power wiring cable size must comply with the applicable local and national code.
8. Must follow installation instructions in the applicable LG installation manual.



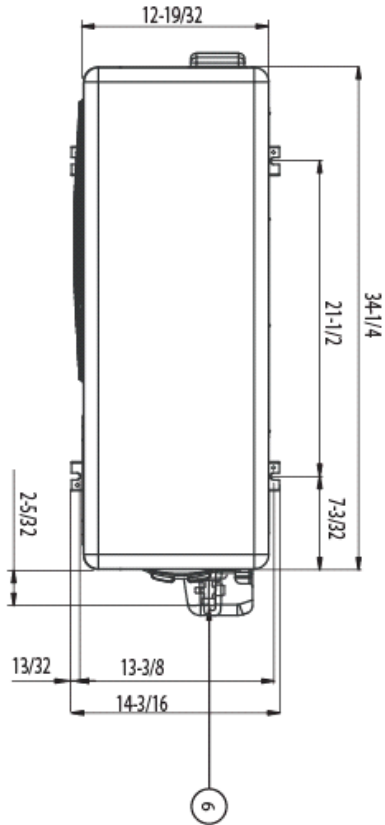
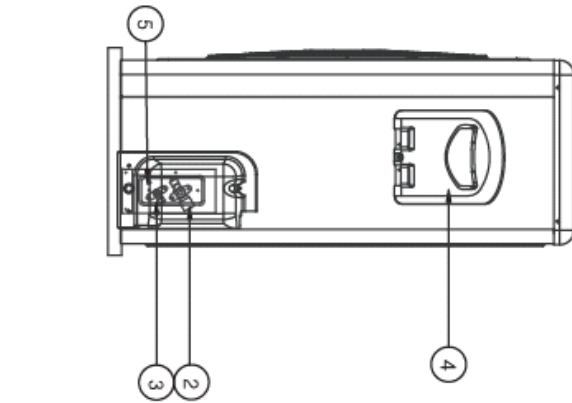
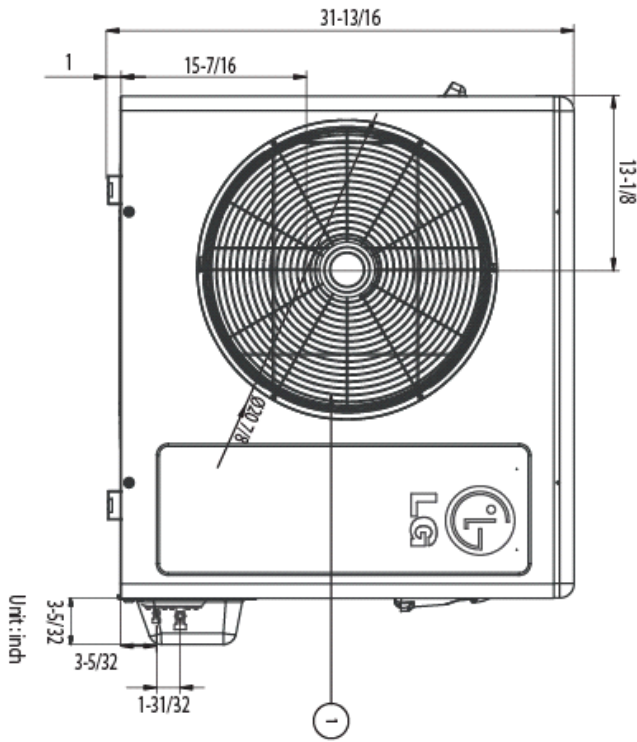
ODU-LUU246HV
Ceiling Cassette Single Zone



Tag #: SS - 5

Date:

PO No.:



No.	Part Name	Remarks
1	Air discharge grille	
2	Gas pipe connection	
3	Liquid pipe connection	
4	Power & transmission connection	
5	Earth screw	
6	SVC valve cover	

IDU-LCN246HV

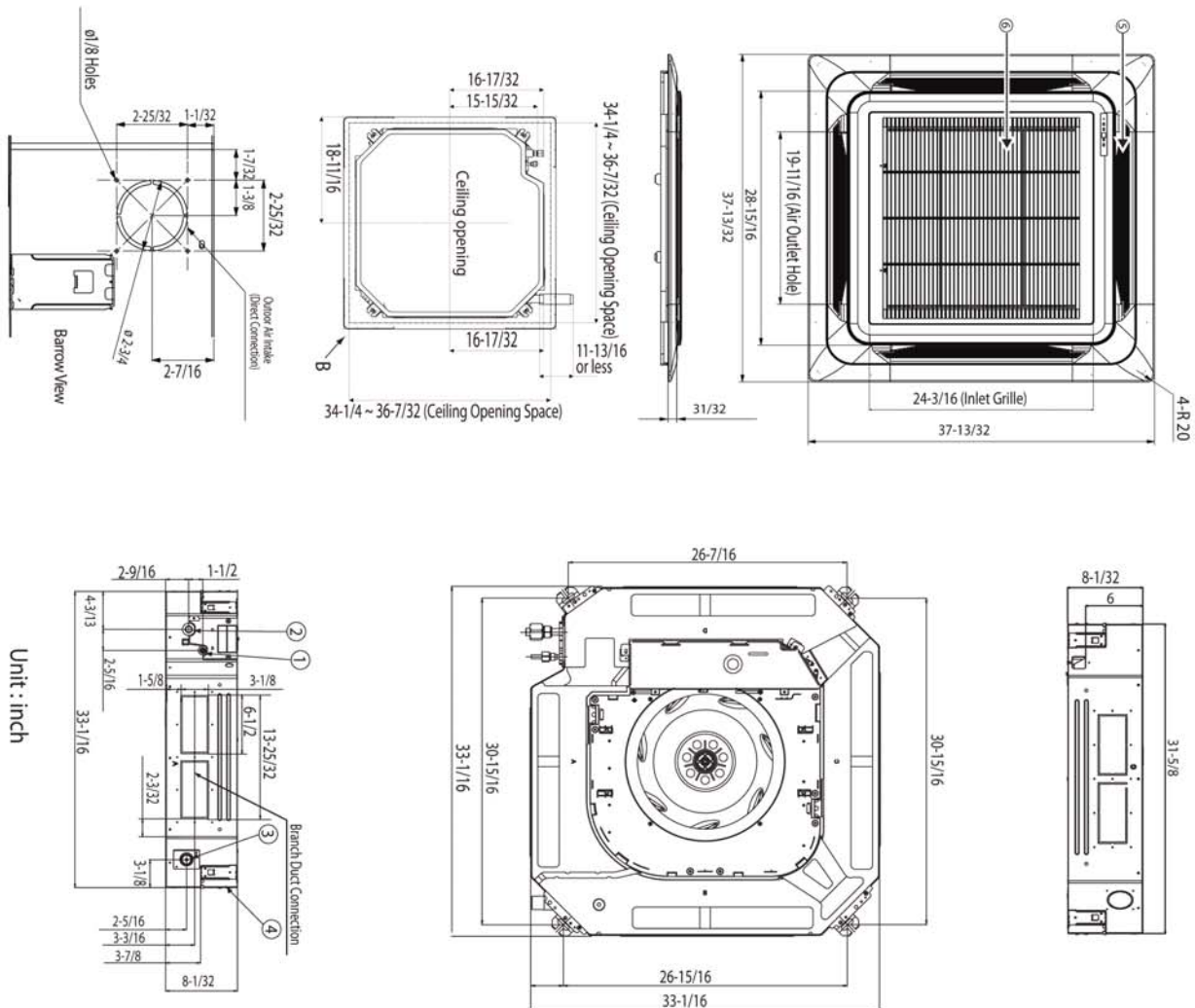
Ceiling Cassette Single Zone



Tag #:SS-5

Date:

PO No.:



Number	Name	Description
1	Liquid pipe connection	
2	Gas pipe connection	
3	Drain pipe connection	VP25(Ø32)
4	Power supply connection	
5	Air discharge grill	
6	Air suction grill	



NORMAN S. WRIGHT MECHANICAL EQUIPMENT of Southern California, LLC

2544 E. Miraloma Way, Anaheim, CA 92806-1608
13031 Bradley Avenue, Sylmar, CA 91342-3832

tel 714.632.9800 fax 714.632.6900
tel 818.367.6100 fax 818.367.1221

Re-Submittal

Job Name: Moorpark College Parking Structure
Location: Moorpark
Customer: Thermalair, Inc.
Engineer: AE Group Mechanical Engineering

NSW Job #: 85411
Date: 12-04-2012

Submitted By: Will Dashwood

ARB STRUCTURES	
☒ REVIEWED	☐ REVISE AND RESUBMIT
☐ APPROVED AS NOTED	☐ REJECTED
ARB, INC.'S REVIEW IS FOR GENERAL COMPLIANCE WITH CONTRACT DOCUMENTS. THIS REVIEW DOES NOT CONSTITUTE ACCEPTANCE NOR RELIEVE SUB-CONTRACTOR/SUPPLIER OF FULL COMPLIANCE WITH ALL THE CONTRACT DOCUMENTS.	
SUBCONTRACT/VENDOR:	Thermalair Inc.
SUBMITTAL #:	0044-0-015624-0
APPROPRIATE REF. NO:	Therm.Inc/HVAC Units
BY: Hansel Tato	DATE: 12/11/12

WE RESPECTFULLY SUBMIT THE FOLLOWING FOR YOUR APPROVAL.



Multi-V Variable Refrigerant Flow Units

H.V.A.C. Industry Leader in Air Moving Equipment & Supplies



NORMAN S. WRIGHT/AIRELINK

Mechanical Equipment, LLC

2544 East Miraloma Way Anaheim CA. 92806-1608
13031 Bradley Ave, Sylmar, CA 91342

Phone 714.632.9800 Fax 714.632.6900
Phone 818-367-6100 Fax 818-367-1221

Review Comments Response

Job Name: Moorpark College Parking Structure
Location: Moorpark, CA
Customer: Thermalair, Inc.
Engineer: AE Group Mechanical Engineering

NSW Job #: 85411

Date: 12/03/12

Submitted By: Will Dashwood

Shop Drawing Submittal Review Comments Response

Please note listed equipment comparisons:

Mitsubishi

PURY-P120TJMU-A
Wt: 695lbs.
Performance: C 120,000btu
 H 135,000btu
IEER: 15.9
Dimensions: 65"x 68 5/16" x 29 15/16"
Electrical: 208/230/1
 MOP 70A
 MCA 49
Warranty: 5 Years Parts
 7 Years Compressor

LG

ARUB121BT3
617lbs.
120,000btu
135,000btu
19
66 1/8" x 48 13/16" x 29 15/16"
208/230/1
60A
44.1
2 Years Parts
6 Years Compressor

PLFY-P12NCMU-E
Wt: 37lbs.
Performance: C 12,000btu
 H 13,500btu
Dimensions: 9 1/4"x 22 7/16" x 22 7/16"
Electrical: 208/230/1
 MCA .35A
Warranty: 5 Years Parts

ARNU123TRC2
32lbs.
12,000btu
13,500btu
8 7/16" x 22 7/16" x 22 7/16"
208/230/1
.2A
2 Years Parts

PLFY-P08NCMU-E
Wt: 34lbs.
Performance: C 8,000btu
 H 9,000btu
Dimensions: 8 3/16"x 22 7/16" x 22 7/16"
Electrical: 208/230/1
 MCA .29A
Warranty: 5 Years Parts

ARNU093TRC2
32lbs.
9,600btu
10,900btu
8 7/16" x 22 7/16" x 22 7/16"
208/230/1
.2A
2 Years Parts

PLFY-P15NCMU-E
Wt: 37lbs.
Performance: C 15,000btu
 H 17,000btu
Dimensions: 9 1/4"x 22 7/16" x 22 7/16"
Electrical: 208/230/1
 MCA .35A
Warranty: 5 Years Parts

ARNU153TQC2
52lbs.
15,400btu
17,100btu
10" x 22 7/16" x 22 7/16"
208/230/1
.2A
2 Years Parts



SYSTEM PERFORMANCE & PIPING DIAGRAMS



NORMAN S. WRIGHT MECHANICAL EQUIPMENT
of Southern California, LLC

H.V.A.C. Industry Leader in Air Moving Equipment & Supplies



Model Selection - Summary

Project Name :Moorpark College Parking Structure

1. Outdoor Units

Model Name	Quantity	Description
ARUB121BT3	1	50,60Hz/R410A/Heat Pump/MultiV III/Heat Recovery/N.America
Total	1	

2. Indoor Units

Model Name	Quantity	Description
ARNU093TRC2	10	Ceiling Cassette - 4Way(9MBh)
ARNU123TRC2	1	Ceiling Cassette - 4Way(12MBh)
ARNU153TNC2	1	Ceiling Cassette - 4Way(15MBh)
Total	12	

3. Pipes

Index	Dia(Liq:Gas,inch)	Length(ft)
P0	1/4 : 1/2	126
P1	3/8 : 5/8	6
P21	3/8 : 1/2:5/8	60
P22	3/8 : 3/4:7/8	16
P28	1/2 : 3/4:1+1/8	9.8

4. Branch/Header/Common pipe

Model Name	Quantity
ARBLB03321	1
PRHR041A	3

5. Accessories

Index	Model Name	Quantit	Description
IDU	PQRCVCL0QW	12	Simple controller with mode (White)
IDU	PT-UMC	1	Standard Grill-4way Cassette(TN,TM,TP)
IDU	PT-UQC	11	Grille 4 way cassette (TR,TQ)



Model Selection - Summary

ODU	PQCSW320A1E	1	AC Smart (Central controller up to 64 indoor units)
-----	-------------	---	---

Model Selection - System 1

Project Name :Moorpark College Parking Structure

09/12/2012

System No :1/1

1. Design conditions

Summer					Winter				
Indoor			Outdoor		Indoor			Outdoor	
DB(°F)	WB(°F)	RH(%)	DB(°F)	WB(°F)	DB(°F)	WB(°F)	RH(%)	DB(°F)	WB(°F)
80.6	67.1	50	82.9	68.0	68.0	56.8	50	41.0	39.2

2. Outdoor

Model Name	Max indoor unit Connectivity	Max total over load(kBtu/h/%)	Indoors/Outdoor Ratio	Product charge(lbs)	Add. Ref. Amount(lbs)
ARUB121BT3	20	156.6(130%)	1.03:1	20.72	16.43

Rated Capa/Corrected Capa(kBtu/h)		Rated Power Input/Corrected Power Input(kW)	
Cooling	Heating	Cooling	Heating
120.0/120.6	135.0/135.4	8.5/7.0	8.7/9.2

3. Pipes

[illegible]

4. Branch/Header/Common pipe

[illegible]

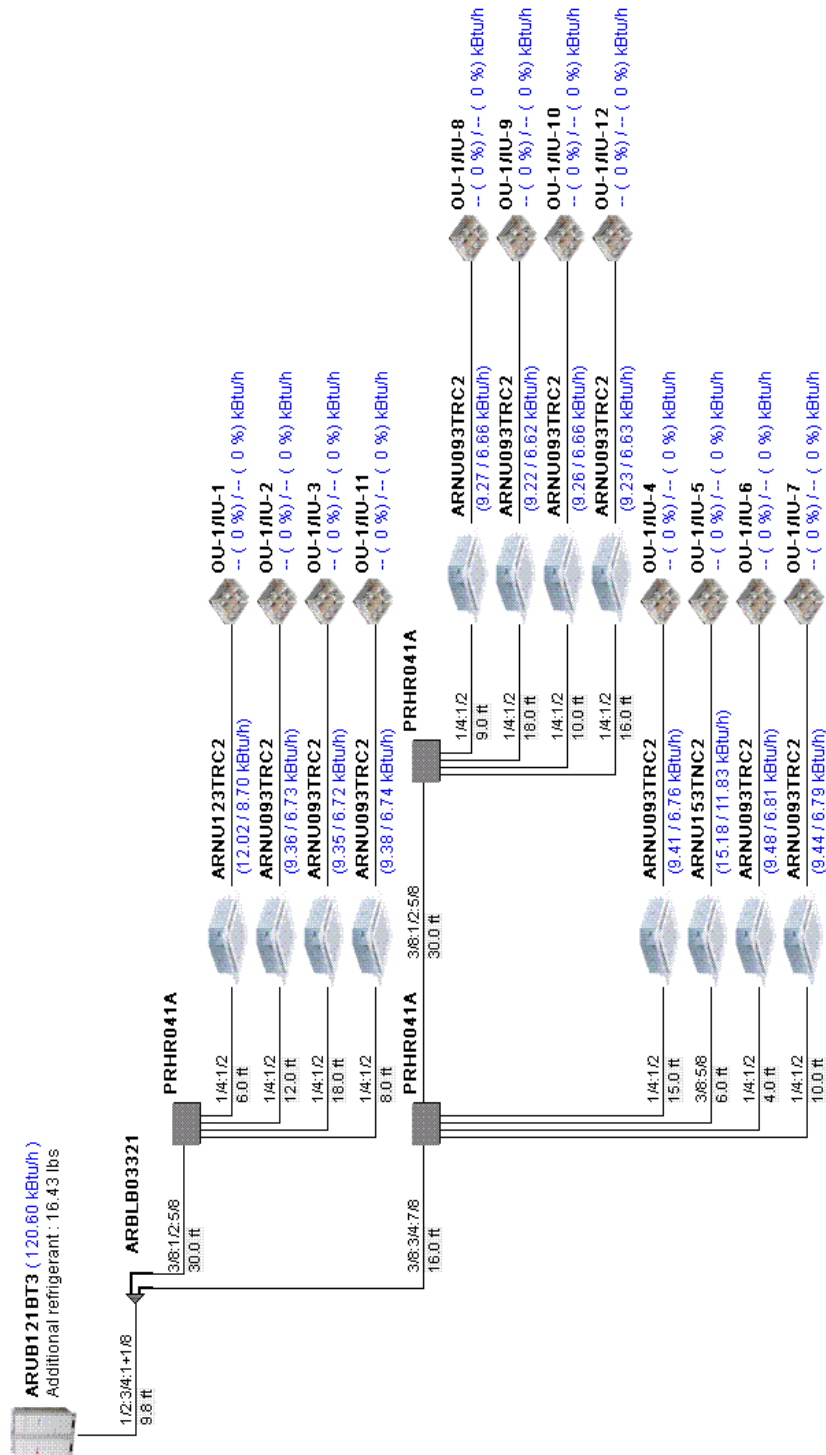
#Notes : Correction factor compensates Indoor unit Combination, Temperature, Pipe Length Effect etc.

The result can be slightly different from product data book due to simulation.

Model Selection - System 1

System No :1/1

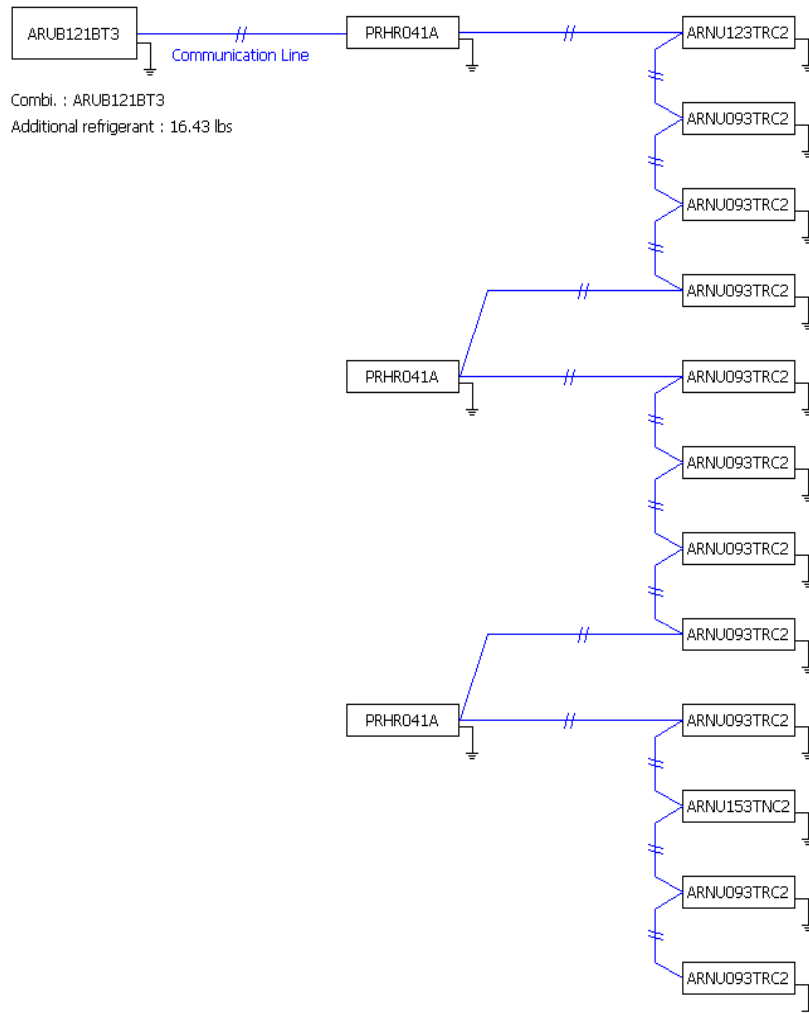
09/12/2012



Model Selection - System 1

System No :1/1

09/12/2012



Note :

Power wiring, breaker size, and disconnects shall follow local code or NEC
 Multi-frame outdoor unit models require a separate power connection for each frame.
 Refer to the most current submittal sheets for applicable electrical data.



Model Selection - Analysis

Project Name :Moorpark College Parking Structure

1. Outdoor Units

Model Name	Quantity	Unit Price	Total Price
ARUB121BT3	1		0
			0
			0
Total	1	0	0

2. Indoor Units

Model Name	Quantity	Unit Price	Total Price
ARNU093TRC2	10		0
ARNU123TRC2	1		0
ARNU153TNC2	1		0
			0
			0
			0
			0
			0
			0
Total	12	0	0

3. Pipes

Dia(Liq:Gas,inch)	Length(ft)	Unit Price	Total Price
1/2	195.8		0
1+1/8	9.8		0
1/4	126		0
3/4	25.8		0
3/8	82		0
5/8	66		0
7/8	16		0
Total	521.4	0	0

4. Branch/Header/Common pipe

Model Name	Quantity	Unit Price	Total Price
ARBLB03321	1		0
PRHR041A	3		0
			0
			0
			0
			0
			0
Total	4	0	0

5. Accessories

Model Name	Quantity	Unit Price	Total Price
PQRCVCL0QW (IDU)	12		0
PT-UMC (IDU)	1		0
PT-UQC (IDU)	11		0



EQUIPMENT CUTSHEETS



NORMAN S. WRIGHT MECHANICAL EQUIPMENT
of Southern California, LLC

H.V.A.C. Industry Leader in Air Moving Equipment & Supplies

Job Name:

Location:

Drawing Reference:

Schedule No.

System No.:

Date:

OUTDOOR VRFZ HEAT RECOVERY SYSTEM FEATURES

- 3-phase, 208/230V
- Modular variable refrigerant flow zoning (VRFZ) systems; smaller capacity units can be piped together to form a single, large-capacity two-pipe system
- Selectable fan static, 0.12 or 0.24"WG external static pressure; factory set to 0"WG
- Max. Total Refrigerant Piping Length: 1,804' (P72,96), 1,969' (P120,144,168), 2,461' (P192), 2,625' (P216,240), 3,280' (P264,288); Max. Refrigerant Line Length: 541'; Max. Control Wiring Length: 1,650'
- Connects to CITY MULTI indoor units; controlled via CITY MULTI Controls Network (CMCN)
- External finish: Pre-coated Galvanized-steel Sheets
- Operating Temperature Range
 - Cooling (Outdoor): 23° ~ 115°F (-5° ~ +46°C) DB
 - Heating (Outdoor): -4° ~ +60°F (-20° ~ +16°C) WB



PURY-P120TJMU-A

INVERTER

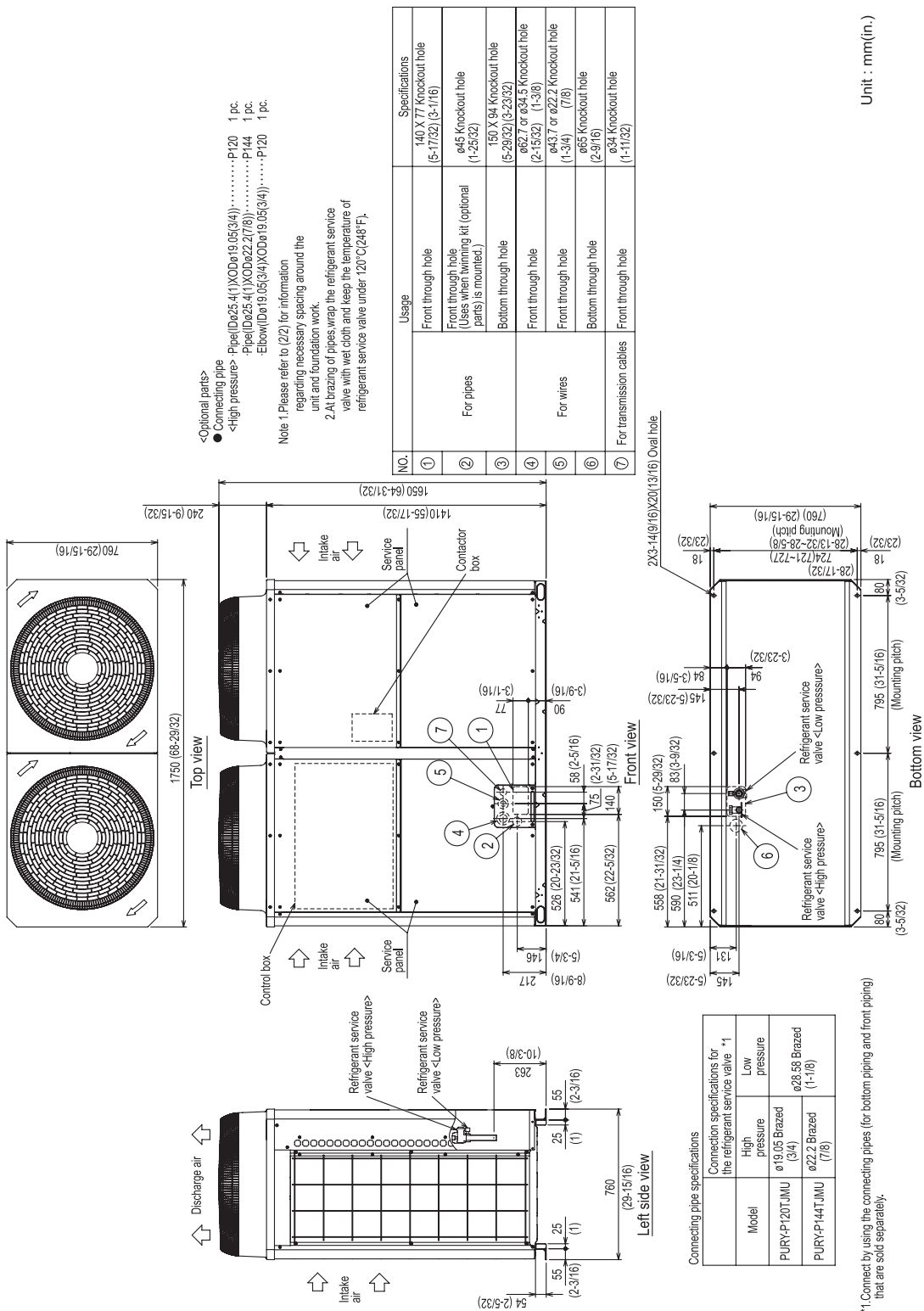


OPTIONAL PARTS

- Branch Joint (T-Branch: ≤ 72,000 Btu/h).....CMY-Y102S-G2
- Branch Joint (T-Branch: 73,000-144,000 Btu/h).....CMY-Y102L-G2
- Branch Joint (T-Branch: 145,000-234,000 Btu/h).....CMY-Y202-G2
- Joint Adapter (Port Connector > 54,000 Btu/h).....CMY-R160J
- BC Controller.....CMB-P105/106/108/1010/1013/1016NU-G
- Main BC Controller.....CMB-P108/1010/1013/1016NU-GA/1016NU-HA
- Sub BC Controller.....CMB-P104/108NU-GB/1016NU-HB

Specifications		Model Name
Unit Type		PURY-P120TJMU-A
Nominal Cooling Capacity	Btu/h	120,000
Nominal Heating Capacity	Btu/h	135,000
External Dimensions (H x W x D)	In. / mm	65 x 68-15/16 x 29-15/16 / 1,650 x 1,750 x 760
Net Weight	Lbs. / kg	695 / 315
Electrical Power Requirements	Voltage, Phase, Hertz	208/230, 3-phase, 60Hz
Cooling Power Input	kW	9.99
Heating Power Input	kW	11.02
Cooling Current (208/230V)	R.L.A.	30.8 / 27.8
Heating Current (208/230V)	R.L.A.	33.9 / 30.7
Minimum Circuit Ampacity (MCA)	A	49 / 46
Recommended Fuse/Breaker Size	A	50
Maximum Fuse Size	A	70 / 70
Piping Diameter (Brazed) (In. / mm)	Liquid (High Pressure)	3/4 / 19.05
	Gas (Low Pressure)	1-1/8 / 28.58
Indoor Unit	Total Capacity	50 to 150% of Outdoor Unit Capacity
	Model / Quantity	P06 to P96 / 1 to 30
Sound Pressure Levels	dB(A)	60.0
Fan		
Type x Quantity		Propeller Fan x 2
Airflow Rate	CFM	10,600
Direct-drive Inverter Motor Output	kW	0.92 + 0.92
Compressor Operating Range		15% to 100%
Compressor Type x Quantity		Inverter-driven Scroll Hermetic x 1
Compressor Motor Output	kW	8.1
Compressor Crankcase Heater	kW	0.045
Refrigerant		R410A
Lubricant		MEL32
High-pressure Protection Device		601 psi / 4.15 MPa
Compressor / Fan Protection Device		Overheat Protection / Thermal Switch
Inverter Protection Device		Overheat / Overcurrent Protection
Blue Fin Anti-corrosion Protection: Cellulose- and polyurethane-resin coating treatment applied to condenser coil that protects it from air contaminants; ≥1μm thick; Salt Spray Test Method - no unusual rust development to 480 hours.		

Model: PURY-P120TJMU-A – DIMENSIONS



*1. Connect by using the connecting pipes (for bottom piping and front piping)



Date:	For: ☐ File ☐ Resubmit
PO No.:	☐ Approval ☐ Other _____
Architect:	GC:
Engr:	Mech:
Rep:	
(Company)	(Project Manager)

ARUB121BT3

Multi V™ III Heat Recovery

10.0 Ton Outdoor Unit



Performance:

Cooling Mode:

Nominal Capacity (Btu/h)	120,000
Rated Capacity (Btu/h)	114,000
EER ¹ (Btu/W·h)	12.5
IEER ¹ (Btu/W·h)	19.0

Heating Mode:

Nominal Capacity (Btu/h)	135,000
Rated Capacity (Btu/h)	129,000
COP ¹ (W/W)	3.45

Nominal capacities are outside the scope of AHRI Standard 1230.
Rated capacities are in accordance with AHRI Standard 1230-2010.

Electrical:

Power Supply (V/Hz/Ø)	208-230/60/3
MOP (A)	60
MCA (A)	44.1
Rated Amps (A)	39.0
Compressor A (A)	12.5
Compressor B (A)	20.5
Fan (A)	6.0
Max Starting Current (A)	150.2

Piping:

Refrigerant Charge (lbs)	20.7
Liquid Line (in, OD)	1/2
Vapor Line High (in, OD)	3/4
Vapor Line Low (in, OD)	1-1/8

Standard Features:

- Limited Warranty with LG Certified Installation
 - Two Year Functional Parts Warranty
 - Additional Four Year Compressor Warranty
- Night Quiet Operation
- Fault Detection and Diagnosis

Operating Range:

Cooling (°F DB)	23 - 122
Heating (°F WB)	-4 - 60
Synchronous	
Cooling Based (°F DB)	14 - 81
Heating Based (°F WB)	14 - 60

Unit Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Max Number of Indoor Units ²	20
Sound Pressure ³ dB(A)	58
Net Unit Weight (lbs)	617
Shipping Weight (lbs)	650
Communication Cable ⁴ (No. x AWG)	2 x 18
Heat Exchanger Coating	GoldFin™

Compressor:

Inverter Scroll Quantity	1
Constant Scroll Quantity	1
Oil/Type	PVE/FVC68D

Fan:

Type	Propeller
Fan Quantity	2
Motor/Drive	Brushless Digitally Controlled/Direct
Fan Air Flow Rate (CFM)	8,500

Notes:

1. The rated data mentioned in the above tables is applied with non-ducted indoor units. EER, IEER and COP (rated at 47°F) values are subject to change without notice. The data found on the AHRI website <http://www.ahridirectory.org/ahridirectory/pages/home.aspx> supersedes this submittal.
2. The combination ratio must be between 50 – 130%.
3. Sound Pressure levels are tested in an anechoic chamber under ISO Standard 1996.
4. All communication cable to be minimum 18 AWG, 2-conductor, stranded, shielded and must comply with applicable local and national code.
5. Nominal data is rated 0 ft above sea level, with 25 ft of refrigerant line per indoor unit and a 0 ft level difference between outdoor and indoor units. All capacities are net with a combination ratio between 95-105%.
6. The voltage tolerance is ± 10%.
7. Power wiring cable size must comply with the applicable local and national code.



ARUB121BT3

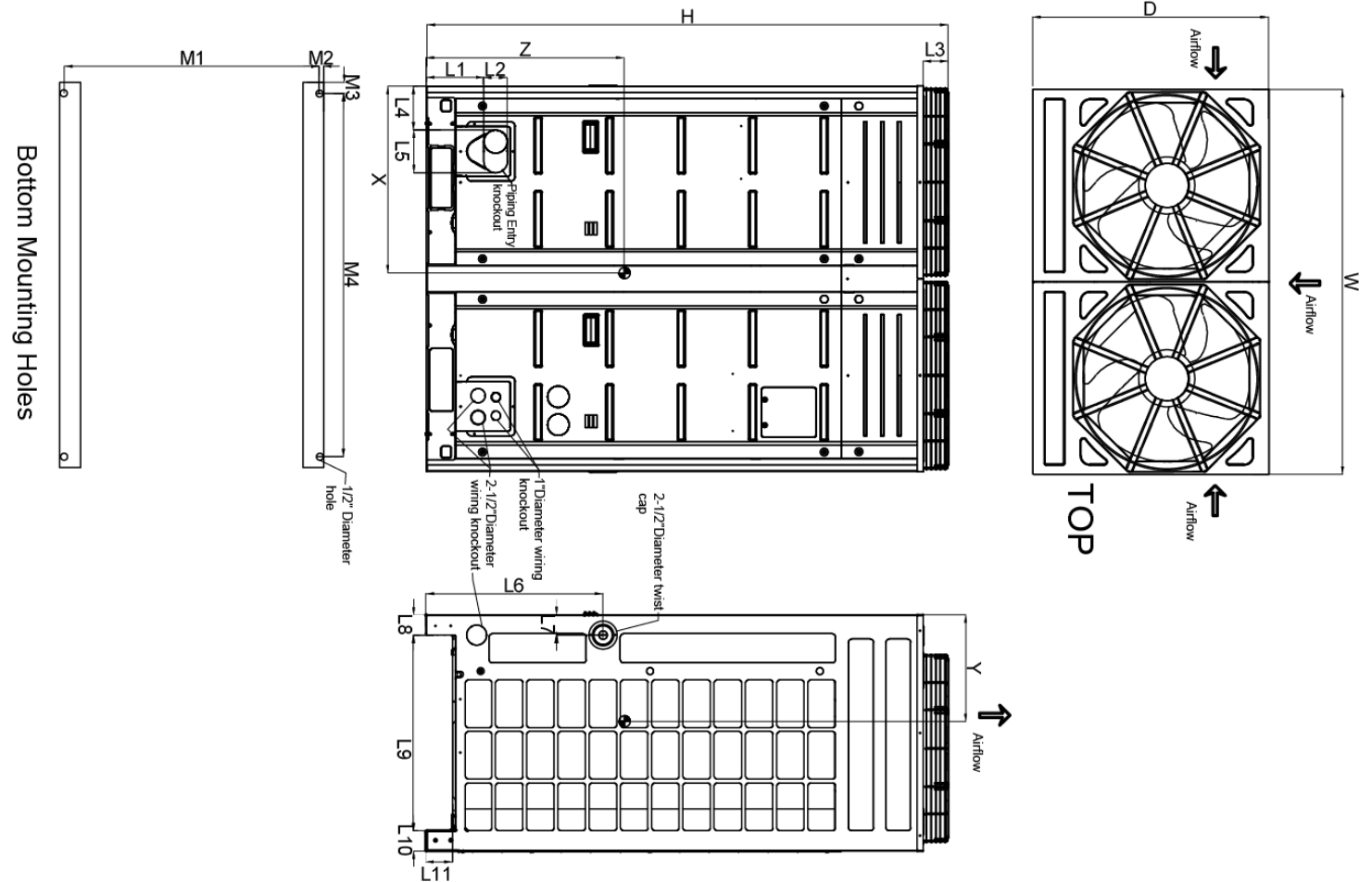
Multi V™ III Heat Recovery
10.0 Ton Outdoor Unit



Tag #: OU-1

Date:

PO No.:



W	48-13/16"
D	29-15/16"
H	66-1/8"
L1	7-1/4"
L2	2-15/16"
L3	3-1/8"
L4	5-1/2"
L5	5-3/8"
L6	22-7/16"
L7	2-9/16"
L8	2-9/16"
L9	24-3/16"
L10	2-9/16"
L11	3-5/16"
M1	29-1/16"
M2	7/16"
M3	1-3/8"
M4	43-3/8"

Center of Gravity

ARUB121BT3

X	23-1/8"
Y	14-15/16"
Z	25-13/16"

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

= Center of gravity

Job Name: _____

Location: _____

Drawing Reference: _____

Schedule No. _____

System No.: _____

Date: _____



GENERAL FEATURES

- R410A or R22 refrigerant-compatible
- Lightweight, low-profile compact design
- 2' x 2' size matches size of many ceiling tiles
- Four-speed fan settings and auto fan speed adjustment mode
- Corner-pocket design for simplified installation
- Built-in condensate lift mechanism; lifts to 19-11/16 in.
- Three-speed fan settings
- Outside air capability
- Quiet operation: 29-40 dB(A)

SPECIFICATIONS

Capacity*

Cooling.....12,000 Btu/h
Heating.....13,500 Btu/h

Power

Power Source.....208 / 230V, 1-phase, 60Hz
Power Consumption

Cooling.....0.06 kW
Heating.....0.06 kW

Current

Cooling.....0.28 A
Heating.....0.28 A

Minimum Circuit Ampacity (MCA).....0.35 A

Maximum Overcurrent Protection (MOCP) Fuse.....15 A

External Finish...Grille (White; Munsell No. 6.4Y 8.9 / 0.4)

External Dimensions

Inches.....9-1/4 H x 22-7/16 W x 22-7/16 D
mm.....235 H x 570 W x 570 D

Grille

Inches.....13/16 H x 25-5/8 W x 25-5/8 D
mm.....20 H x 650 W x 650 D

*** Service Access Note:** If the PLFY-NCMU-E indoor unit is to be installed in a non-accessible location, such as a gypsum ceiling, an access panel meeting the minimum size requirements shown on the dimension page shall be required for service and maintenance.

Net Weight

Unit.....37 lbs. / 17 kg
Grille.....7 lbs. / 3 kg

Coil Type.....Cross Fin
(Aluminum Plate Fin and Copper Tube)

Fan

Type x Quantity.....Turbo Fan x 1
Airflow Rate

(Low - Med - High).....320 - 350 - 390 cfm

Motor

Type.....Single-phase Induction

Output.....0.020 kW

Air Filter.....Polypropylene Honeycomb

Refrigerant Piping Dimensions

R410A or R22

Liquid (High Pressure).....1/4" / 6.35 mm Flare

Gas (Low Pressure).....1/2" / 12.7 mm Flare

Drainpipe Dimension.....O.D. 1-1/4" / 32 mm

Sound Pressure Level

(Low - Med - High).....30 - 34 - 39 dB(A)

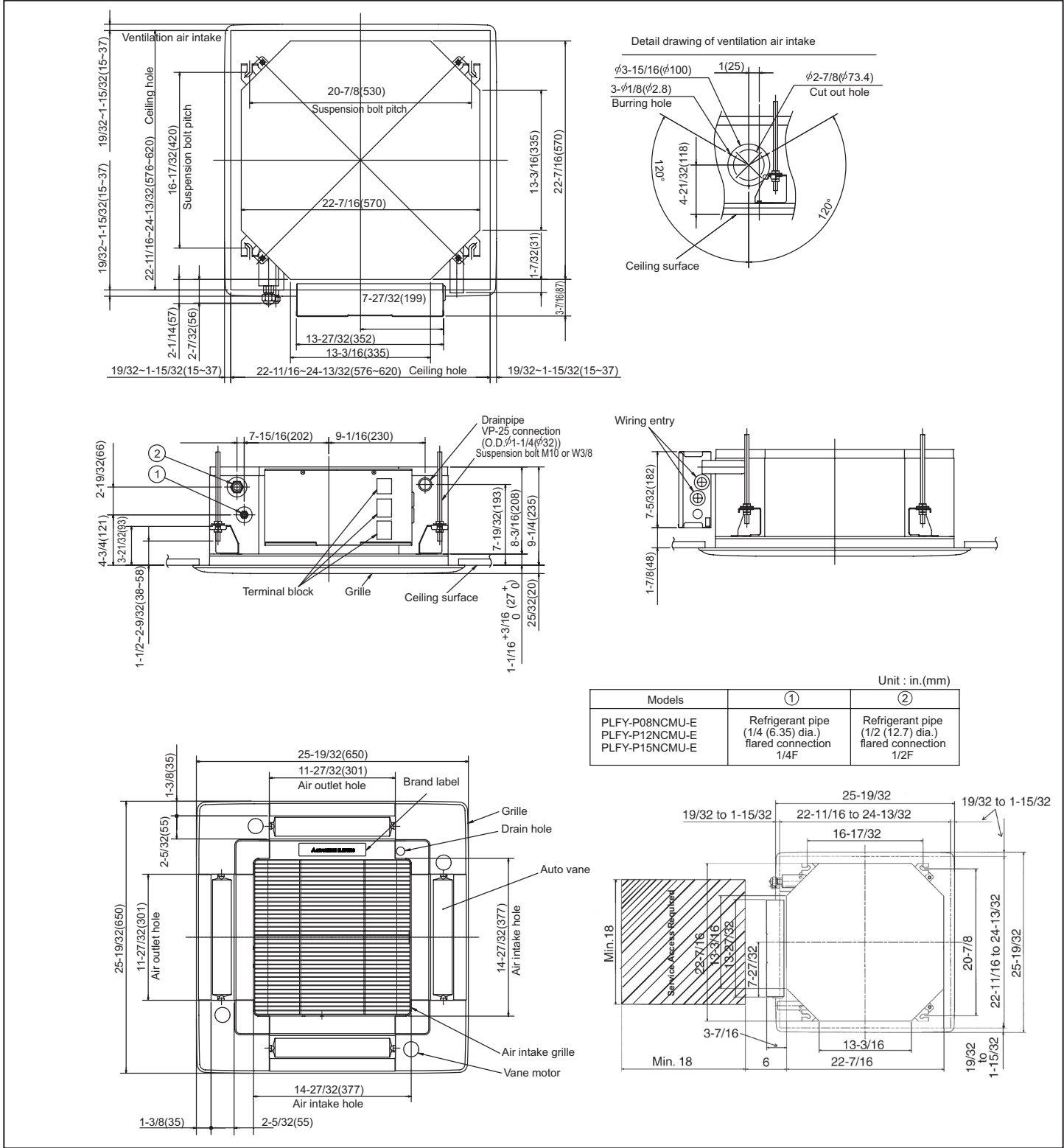
* Cooling / Heating capacity indicated at the maximum value at operation under the following conditions:

Cooling: Indoor 80°F (27°C) DB / 67°F (19°C) WB, Outdoor 95°F (35°C) DB

Heating: Indoor 70°F (21°C) DB, Outdoor 47°F (8°C) DB / 43°F (6°C) WB

** PLFY-P-NCMU-E should be used with the SLP-15AAUW.

Note: Ventilation air: Providing sufficient ventilation air is an important part of every building design. ASHRAE Standard 62 provides the minimum ventilation air requirement. Also, check local codes.



Certificate Number FM33568



Certificate Number EC97J1227

C SD - PLFY-P12NCMU-E - 1 - 201104 © MITSUBISHI ELECTRIC / HVAC 2011

Mitsubishi Electric Air Conditioning & Refrigeration Systems Works acquired ISO 9001 certification under Series 9000 of the International Standard Organization (ISO) based on a review of quality warranties for the production of refrigeration and air conditioning equipment.

ISO Authorization System

The ISO 9000 series is a plant authorization system relating to quality warranties as stipulated by the ISO. ISO 9001 certifies quality warranties based on the "design, development, production, installation and auxiliary services" for products built at an authorized plant.

Mitsubishi Electric Air Conditioning & Refrigeration Systems Works acquired environmental management system standard ISO 14001 certification.

The ISO 14000 series is a set of standards applying to environmental protection set by the International Standard Organization (ISO).



HVAC Advanced Products Division

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www.mehvac.com

Specifications are subject to change without notice.

Date:

For: ☐ File ☐ Resubmit

PO No.:

☐ Approval ☐ Other _____

Architect:

GC:

Engr:

Mech:

Rep:

(Company)

(Project Manager)

**ARNU123TRC2**

Multi V™ 4-Way Ceiling Cassette

12,300 Btu/h Indoor Unit

Performance:

Total Cooling Capacity (Btu/h)	12,300
Heating Capacity (Btu/h)	13,600
Power Input ¹ (kW)	30

Cooling Nominal Test Conditions:

Indoor: 80°F DB/67°F WB

Outdoor: 95°F DB

Heating Nominal Test Conditions:

Indoor: 70°F DB

Outdoor: 47°F DB/43°F WB

Electrical:

Power Supply (V/Hz/Ø)	208-230/60/1
Rated Amps (A)	0.2

Piping:

Refrigerant:

Liquid Line (in, OD):	1/4 Flare
Vapor Line (in, OD):	1/2 Flare

Condensate:

Condensate Line (in, OD)	1
Factory Installed Pump ²	Yes

Controls Features:

- Auto changeover (Heat Recovery Only)
- Auto operation
- Auto restart
- Child lock
- Dual thermistor control
- Forced operation
- Group control
- High ceiling
- Hot start
- Self diagnostics
- Sleep mode
- Timer (on/off)
- Weekly schedule
- Soft dry (dehumidification)
- Auto direction/swing (up/down)
- Fan speed control
- Chaos wind (random fan speed)
- Swirl wind (alternating vanes)
- Jet cool (fast cooling)

Required Accessories:

- ☐ Grille Kit (PT-UQC)

Optional Accessories:

- ☐ Wireless Handheld Remote Controller - PQWRHDF0
- ☐ 7-Day Programmable Controller (Black) - PQRCVSL0
- ☐ 7-Day Programmable Controller (White) - PQRCVSL0QW
- ☐ Simple Controller with Mode (Black) - PQRCVCL0Q
- ☐ Simple Controller with Mode (White) - PQRCVCL0QW
- ☐ Simple Controller without Mode (Black) - PQRCHCA0Q
- ☐ Simple Controller without Mode (White) - PQRCHCA0QW
- ☐ Dry Contact Unit - PQDSB1
- ☐ Dry Contact Unit - PQDSBC
- ☐ Wall Mounted Temperature Sensor - PQRSTA0
- ☐ Ventilation Kit - PTVK430

For continual product development, LG reserves the right to change specifications without notice.

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Entering Mixed Air:

Cooling Max ³ (°F WB)	76
Heating Min (°F DB)	59

Unit Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Sound Pressure ⁴ dB(A) (H/M/L)	32/30/27
Primary Filter	Washable Pre-filter
Secondary Filter	Plasma
Net Weight (lbs)	32
Shipping Weight (lbs)	36
Grille Weight (lbs)	5
Grille Shipping Weight (lbs)	8

Fan:

Type	Turbo
Quantity	1
Motor/Drive	Brushless Digitally Controlled/Direct
Airflow Rate H/M/L (CFM)	307/283/247

Standard Features:

- Limited Warranty with LG Certified Installation
 - Two Year Functional Parts Warranty
- Corner Access Panels

Notes:

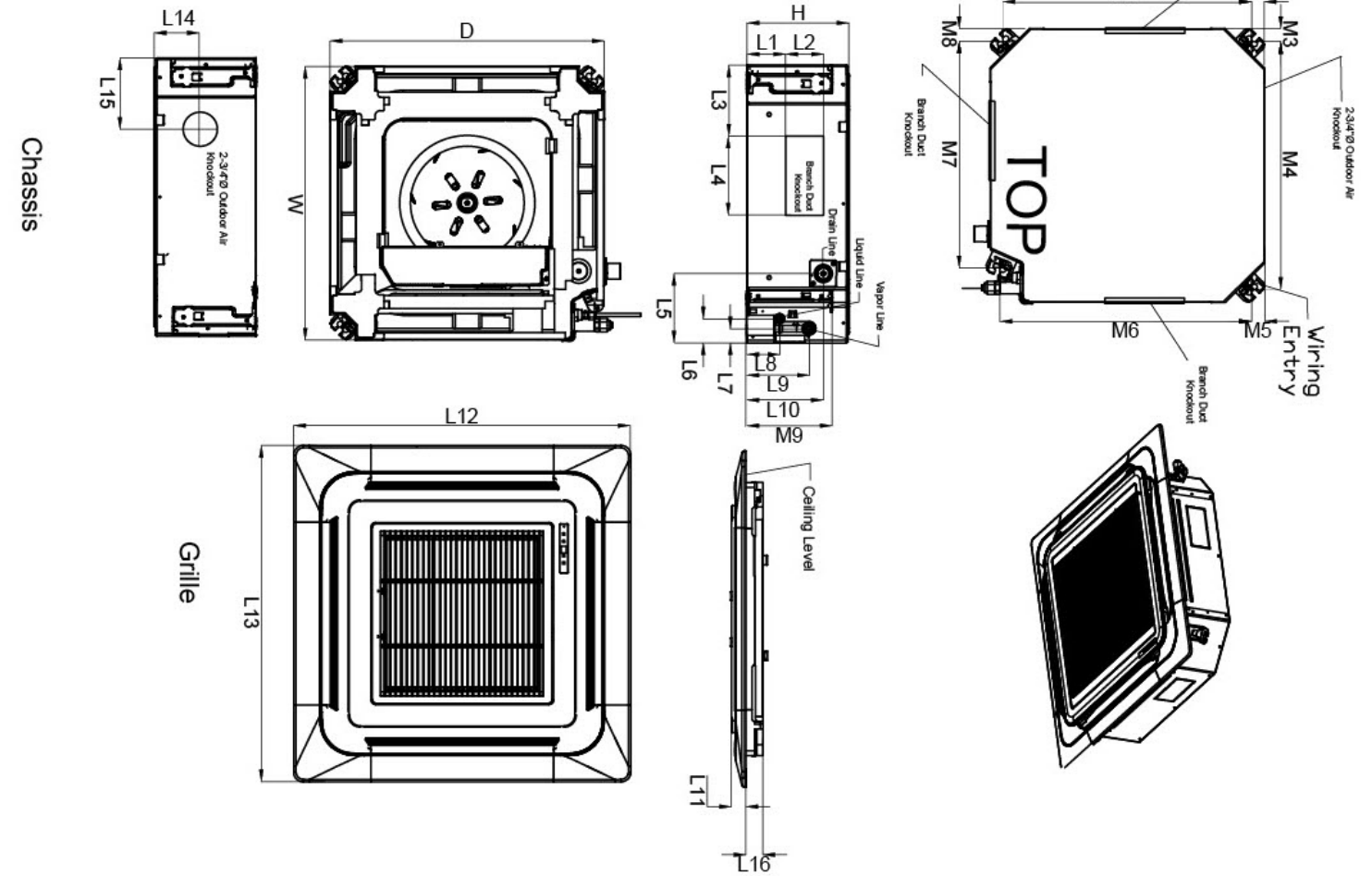
- The Power Input is rated at high speed.
- Maximum lift is 27 in from bottom of unit.
- See Engineering Manual for sensible and latent capacities.
- Sound Pressure levels are tested in an anechoic chamber under ISO Standard 1996.
- All communication cable to be minimum 18 AWG, 2-conductor, stranded, shielded and must comply with applicable local and national code.
- Power wiring cable size must comply with the applicable local and national code.
- This unit comes with a dry nitrogen charge.
- This data is rated 0 ft above sea level, with 25 ft of refrigerant line per indoor unit and a 0 ft level difference between outdoor and indoor units. All capacities are net with a combination ratio between 95 – 105%.
- Must follow installation instructions in the applicable LG installation manual.



ARNU123TRC2
Multi V™ 4-Way Ceiling Cassette
12,300 Btu/h Indoor Unit



Tag #:
Date:
PO No.:



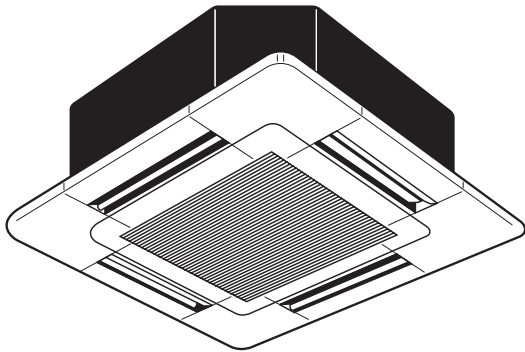
W	22-7/16"
H	8-7/16"
D	22-7/16"
L1	2-1/8"
L2	3-1/8"
L3	5-13/16"
L4	6-1/2"
L5	5-5/8"
L6	1-15/16"
L7	1-3/16"
L8	2-3/4"
L9	5-1/8"
L10	6-5/16"
L11	7/8"
L12	27-9/16
L13	27-9/16"
L14	3-7/16"
L15	5-7/8"
L16	1-3/16"
M1	20-3/8"
M2	1-1/16"
M3	1-1/16"
M4	20-3/8"
M5	1-1/16"
M6	20-5/8"
M7	18-3/16"
M8	1-1/16"
M9	6-15/16

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

Job Name: _____

Drawing Reference: _____

Schedule No. _____

**GENERAL FEATURES**

- R410A or R22 refrigerant-compatible
- Lightweight, low-profile compact design
- 2' x 2' size matches size of many ceiling tiles
- Four-speed fan settings and auto fan speed adjustment mode
- Corner-pocket design for simplified installation
- Built-in condensate lift mechanism; lifts to 19-11/16 in.
- Three-speed fan settings
- Outside air capability
- Quiet operation: 29-40 dB(A)

SPECIFICATIONS**Capacity***

Cooling.....8,000 Btu/h
 Heating.....9,000 Btu/h

Power

Power Source.....208 / 230V, 1-phase, 60Hz

Power Consumption

Cooling.....0.05 kW

Heating.....0.05 kW

Current

Cooling.....0.23 A

Heating.....0.23 A

Minimum Circuit Ampacity (MCA).....0.29 A

Maximum Overcurrent Protection (MOCP) Fuse.....15 A

External Finish...Grille (White; Munsell No. 6.4Y 8.9 / 0.4)**External Dimensions**

Inches.....8-3/16 h x 22-7/16 w x 22-7/16 d
 mm.....208 h x 570 w x 570 d

Grille (SLP-15AAUW):

Inches.....13/16 h x 25-5/8 w x 25-5/8 d
 mm.....20 h x 650 w x 650 d

Net Weight

Unit.....34 lbs. / 15.5 kg

Grille.....7 lbs. / 3 kg

Coil Type.....Cross Fin
 (Aluminum Plate Fin and Copper Tube)

Fan

Type x Quantity.....Turbo Fan x 1

Airflow Rate

(Low - Med - High).....280 - 320 - 350 cfm

Motor

Type.....Single-phase Induction

Output.....0.015 kW

Air Filter.....Polypropylene Honeycomb**Refrigerant Piping Dimensions****R410A or R22**

Liquid (High Pressure).....1/4" / 6.35 mm Flare

Gas (Low Pressure).....1/2" / 12.7 mm Flare

Drainpipe Dimension.....O.D. 1-1/4" / 32 mm**Sound Level**

(Low - Med - High).....29 - 32 - 38 dB(A)

Required Accessory**

□ Grille.....SLP-15AAUW

* Cooling / Heating capacity indicated at the maximum value at operation under the following conditions:

Cooling: Indoor 80°F (27°C) DB / 67°F (19°C) WB, Outdoor 95°F (35°C) DB

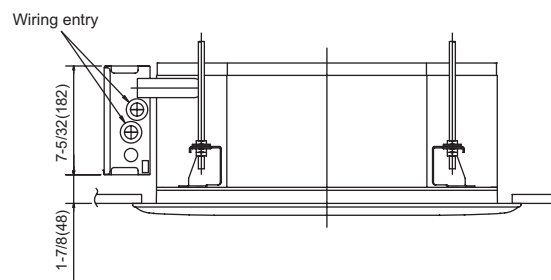
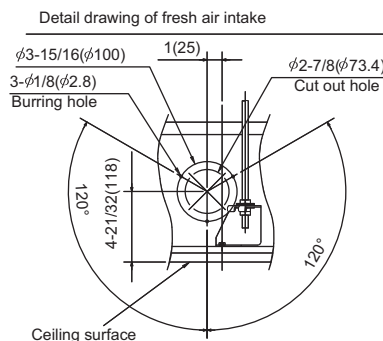
Heating: Indoor 70°F (21°C) DB, Outdoor 47°F (8°C) DB / 43°F (6°C) WB

** PLFY-P-NCMU-E should be used with the SLP-15AAUW.

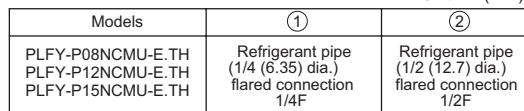
Note: Ventilation air: Providing sufficient ventilation air is an important part of every building design. ASHRAE Standard 62 provides the minimum ventilation air requirement. Also, check local codes.

Notes: _____

Model: PLFY-P08NCMU-E – DIMENSIONS



Unit : in.(mm)



Mitsubishi Electric Air Conditioning & Refrigeration Systems Works acquired ISO 9001 certification under Series 9000 of the International Standard Organization (ISO) based on a review of quality warranties for the production of refrigeration and air conditioning equipment.

The ISO 9000 series is a plant authorization system relating to quality warranties as stipulated by the ISO. ISO 9001 certifies quality warranties based on the "design, development, production, installation and auxiliary services" for products built at an authorized plant.



The ISO 14000 series is a set of standards applying to environmental protection set by the International Standard Organization (ISO).

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Specifications are subject to change without notice.

Job Name/Location:

Tag #:

Date:

For: ☐ File ☐ Resubmit

PO No.:

☐ Approval ☐ Other _____

Architect:

GC:

Engr:

Mech:

Rep:

(Company)

(Project Manager)

IU-2, 3, 4, 6, 7, 8, 9, 10, 11, 12

**ARNU093TRC2**

Multi V™ 4-Way Ceiling Cassette

9,600 Btu/h Indoor Unit

Performance:

Total Cooling Capacity (Btu/h)	9,600
Heating Capacity (Btu/h)	10,900
Power Input ¹ (kW)	30

Cooling Nominal Test Conditions:

Indoor: 80°F DB/67°F WB

Outdoor: 95°F DB

Heating Nominal Test Conditions:

Indoor: 70°F DB

Outdoor: 47°F DB/43°F WB

Electrical:

Power Supply (V/Hz/Ø)	208-230/60/1
Rated Amps (A)	0.2

Piping:

Refrigerant:

Liquid Line (in, OD):	1/4 Flare
Vapor Line (in, OD):	1/2 Flare

Condensate:

Condensate Line (in, OD)	1
Factory Installed Pump ²	Yes

Controls Features:

- Auto changeover (Heat Recovery Only)
- Auto operation
- Auto restart
- Child lock
- Dual thermistor control
- Forced operation
- Group control
- High ceiling
- Hot start
- Self diagnostics
- Sleep mode
- Timer (on/off)
- Weekly schedule
- Soft dry (dehumidification)
- Auto direction/swing (up/down)
- Fan speed control
- Chaos wind (random fan speed)
- Swirl wind (alternating vanes)
- Jet cool (fast cooling)

Required Accessories:

- ☐ Grille Kit (PT-UQC)

Optional Accessories:

- ☐ Wireless Handheld Remote Controller - PQWRHDF0
- ☐ 7-Day Programmable Controller (Black) - PQRCVSL0
- ☐ 7-Day Programmable Controller (White) - PQRCVSL0QW
- ☐ Simple Controller with Mode (Black) - PQRCVCL0Q
- ☐ Simple Controller with Mode (White) - PQRCVCL0QW
- ☐ Simple Controller without Mode (Black) - PQRCHCA0Q
- ☐ Simple Controller without Mode (White) - PQRCHCA0QW
- ☐ Dry Contact Unit - PQDSB1
- ☐ Dry Contact Unit - PQDSBC
- ☐ Wall Mounted Temperature Sensor - PQRSTA0
- ☐ Ventilation Kit - PTVK430

For continual product development, LG reserves the right to change specifications without notice.

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Entering Mixed Air:

Cooling Max ³ (°F WB)	76
Heating Min (°F DB)	59

Unit Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Sound Pressure ⁴ dB(A) (H/M/L)	30/29/27
Primary Filter	Washable Pre-filter
Secondary Filter	Plasma
Net Weight (lbs)	32
Shipping Weight (lbs)	36
Grille Weight (lbs)	5
Grille Shipping Weight (lbs)	8

Fan:

Type	Turbo
Quantity	1
Motor/Drive	Brushless Digitally Controlled/Direct
Airflow Rate H/M/L (CFM)	283/265/251

Standard Features:

- Limited Warranty with LG Certified Installation
 - Two Year Functional Parts Warranty
- Corner Access Panels

Notes:

- The Power Input is rated at high speed.
- Maximum lift is 27 ft from bottom of unit.
- See Engineering Manual for sensible and latent capacities.
- Sound Pressure levels are tested in an anechoic chamber under ISO Standard 1996.
- All communication cable to be minimum 18 AWG, 2-conductor, stranded, shielded and must comply with applicable local and national code.
- Power wiring cable size must comply with the applicable local and national code.
- This unit comes with a dry nitrogen charge.
- This data is rated 0 ft above sea level, with 25 ft of refrigerant line per indoor unit and a 0 ft level difference between outdoor and indoor units. All capacities are net with a combination ratio between 95 – 105%.
- Must follow installation instructions in the applicable LG installation manual.



ARNU093TRC2

Multi V™ 4-Way Ceiling Cassette

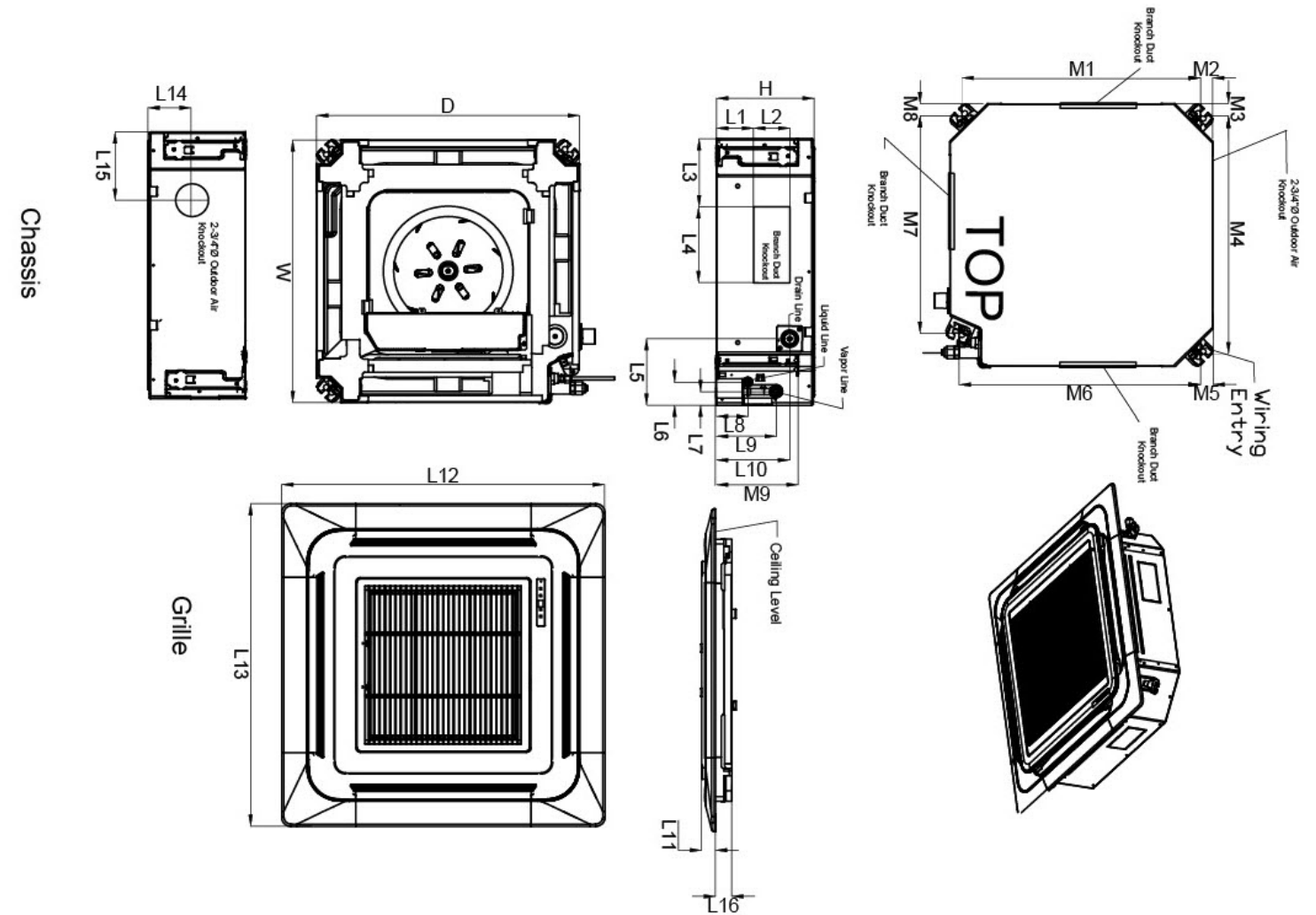
9,600 Btu/h Indoor Unit



Tag #:

Date:

PO No.:



W	22-7/16"
H	8-7/16"
D	22-7/16"
L1	2-1/8"
L2	3-1/8"
L3	5-13/16"
L4	6-1/2"
L5	5-5/8"
L6	1-15/16"
L7	1-3/16"
L8	2-3/4"
L9	5-1/8"
L10	6-5/16"
L11	7/8"
L12	27-9/16
L13	27-9/16"
L14	3-7/16"
L15	5-7/8"
L16	1-3/16"
M1	20-3/8"
M2	1-1/16"
M3	1-1/16"
M4	20-3/8"
M5	1-1/16"
M6	20-5/8"
M7	18-3/16"
M8	1-1/16"
M9	6-15/16

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

Job Name: _____

Location: _____

Drawing Reference: _____

Schedule No. _____

System No.: _____

Date: _____



GENERAL FEATURES

- R410A or R22 refrigerant-compatible
- Lightweight, low-profile compact design
- 2' x 2' size matches size of many ceiling tiles
- Four-speed fan settings and auto fan speed adjustment mode
- Corner-pocket design for simplified installation
- Built-in condensate lift mechanism; lifts to 19-11/16 in.
- Three-speed fan settings
- Outside air capability
- Quiet operation: 29-40 dB(A)

SPECIFICATIONS

Capacity*

Cooling.....15,000 Btu/h
Heating.....17,000 Btu/h

Power

Power Source.....208 / 230V, 1-phase, 60Hz
Power Consumption

Cooling.....0.06 kW
Heating.....0.06 kW

Current

Cooling.....0.28 A
Heating.....0.28 A

Minimum Circuit Ampacity (MCA).....0.35 A

Maximum Overcurrent Protection (MOCP) Fuse.....15 A

External Finish...Grille (White; Munsell No. 6.4Y 8.9 / 0.4)

External Dimensions

Inches.....9-1/4 H x 22-7/16 W x 22-7/16 D
mm.....235 H x 570 W x 570 D

Grille

Inches.....13/16 H x 25-5/8 W x 25-5/8 D
mm.....20 H x 650 W x 650 D

*** Service Access Note:** If the PLFY-NCMU-E indoor unit is to be installed in a non-accessible location, such as a gypsum ceiling, an access panel meeting the minimum size requirements shown on the dimension page shall be required for service and maintenance.

Net Weight

Unit.....37 lbs. / 17 kg
Grille.....7 lbs. / 3 kg

Coil Type.....Cross Fin
(Aluminum Plate Fin and Copper Tube)

Fan

Type x Quantity.....Turbo Fan x 1
Airflow Rate

(Low - Med - High).....320 - 350 - 390 cfm

Motor

Type.....Single-phase Induction
Output.....0.020 kW

Air Filter.....Polypropylene Honeycomb

Refrigerant Piping Dimensions

R410A

Liquid (High Pressure).....1/4" / 6.35 mm Flare
Gas (Low Pressure).....1/2" / 12.7 mm Flare

R22

Liquid (High Pressure).....3/8" / 9.52 mm Flare
Gas (Low Pressure).....5/8" / 15.88 mm Flare

Drainpipe Dimension.....O.D. 1-1/4" / 32 mm

Sound Pressure Level

(Low - Med - High).....31 - 35 - 40 dB(A)

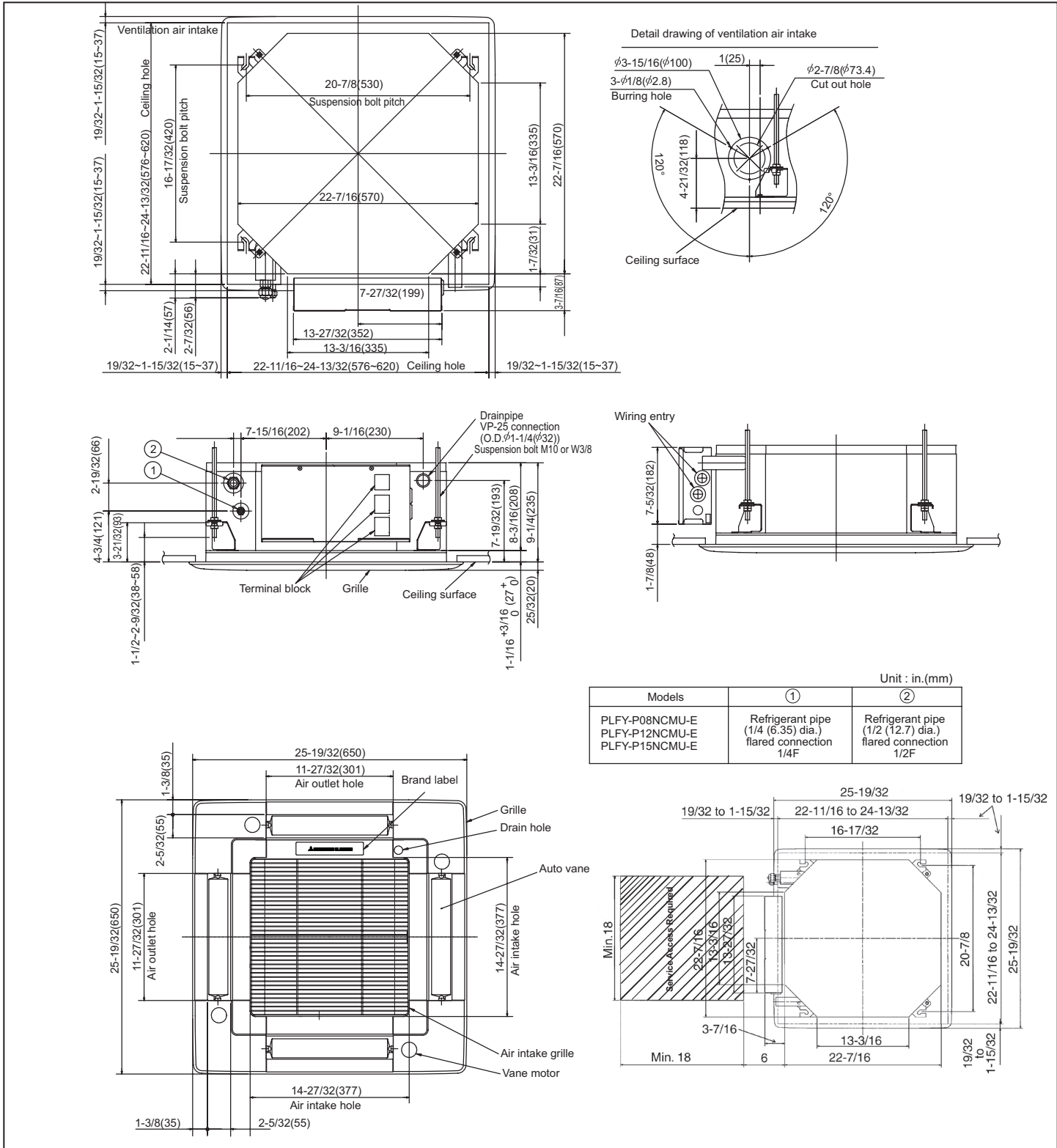
* Cooling / Heating capacity indicated at the maximum value at operation under the following conditions:

Cooling: Indoor 80°F (27°C) DB / 67°F (19°C) WB, Outdoor 95°F (35°C) DB

Heating: Indoor 70°F (21°C) DB, Outdoor 47°F (8°C) DB / 43°F (6°C) WB

** PLFY-P-NCMU-E should be used with the SLP-15AAUW.

Note: Ventilation air: Providing sufficient ventilation air is an important part of every building design. ASHRAE Standard 62 provides the minimum ventilation air requirement. Also, check local codes.



Certificate Number FM33568

Mitsubishi Electric Air Conditioning & Refrigeration Systems Works acquired ISO 9001 certification under Series 9000 of the International Standard Organization (ISO) based on a review of quality warranties for the production of refrigeration and air conditioning equipment.

ISO Authorization System

The ISO 9000 series is a plant authorization system relating to quality warranties as stipulated by the ISO. ISO 9001 certifies quality warranties based on the "design, development, production, installation and auxiliary services" for products built at an authorized plant.



Certificate Number EC97J1227

Mitsubishi Electric Air Conditioning & Refrigeration Systems Works acquired environmental management system standard ISO 14001 certification.

The ISO 14000 series is a set of standards applying to environmental protection set by the International Standard Organization (ISO).



HVAC Advanced Products Division

Mitsubishi Electric & Electronics USA, Inc.
3400 Lawrenceville Suwanee Rd.
Suwanee, GA 30024
Tele: 678-376-2900 • Fax: 800-889-9904
Toll Free: 800-433-4822 (#4)
www.mehvac.com
Specifications are subject to change without notice.

Specifications are subject to change without notice.

Date:

For: ☐ File ☐ Resubmit

PO No.:

☐ Approval ☐ Other _____

Architect:

GC:

Engr:

Mech:

Rep:

(Company)

(Project Manager)

**ARNU153TQC2**

Multi V™ 4-Way Ceiling Cassette

15,400 Btu/h Indoor Unit

Performance:

Total Cooling Capacity (Btu/h)	15,400
Heating Capacity (Btu/h)	17,100
Power Input ¹ (W)	30

Cooling Nominal Test Conditions:

Indoor: 80°F DB/67°F WB

Outdoor: 95°F DB

Heating Nominal Test Conditions:

Indoor: 70°F DB

Outdoor: 47°F DB/43°F WB

Electrical:

Power Supply (V/Hz/Ø)	208-230/60/1
Rated Amps (A)	0.2

Piping:**Refrigerant:**

Liquid Line (in, OD)	1/4 Flare
Vapor Line (in, OD)	1/2 Flare

Condensate:

Condensate Line (in, OD)	1
Factory Installed Pump ²	Yes

Controls Features:

- Auto changeover (Heat Recovery Only)
- Auto operation
- Auto restart
- Child lock
- Dual thermistor control
- Forced operation
- Group control
- High ceiling
- Hot start
- Self diagnostics
- Sleep mode
- Timer (on/off)
- Weekly schedule
- Soft dry (dehumidification)
- Auto direction/swing (up/down)
- Fan speed control
- Chaos wind (random fan speed)
- Swirl wind (alternating vanes)
- Jet cool (fast cooling)

Required Accessories:

- ☐ Grille Kit (PT-UQC)

Optional Accessories:

- ☐ Wireless Handheld Remote Controller - PQWRHDF0
- ☐ 7-Day Programmable Controller (Black) - PQRCVSL0
- ☐ 7-Day Programmable Controller (White) - PQRCVSL0QW
- ☐ Simple Controller with Mode (Black) - PQRCVCL0Q
- ☐ Simple Controller with Mode (White) - PQRCVCL0QW
- ☐ Simple Controller without Mode (Black) - PQRCHCA0Q
- ☐ Simple Controller without Mode (White) - PQRCHCA0QW
- ☐ Dry Contact Unit Dry Contact Unit (1 contact, 24 VAC external power) - PQDSB1
- ☐ Dry Contact Unit Dry Contact Unit (2 input, power from indoor unit) - PQDSBC
- ☐ Dry Contact for third party thermostat - PQDSBNGCM1
- ☐ Wall Mounted Temperature Sensor - PQRSTA0
- ☐ Ventilation Kit - PTVK430

For continual product development, LG reserves the right to change specifications without notice.

LG Electronics U.S.A., Inc., Englewood Cliffs, NJ. All rights reserved. "LG Life's Good" is a registered trademark of LG Corp. /www.lg-vrf.com

Entering Mixed Air:

Cooling Max ³ (°F WB)	76
Heating Min (°F DB)	59

Unit Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Sound Pressure ⁴ dB(A) (H/M/L)	36/34/32
Primary Filter	Washable Pre-filter
Secondary Filter	Plasma
Net Weight (lbs)	35
Shipping Weight (lbs)	42
Grille Weight (lbs)	7
Grille Shipping Weight (lbs)	11

Fan:

Type	Turbo
Quantity	1
Motor/Drive	Brushless Digitally Controlled/Direct
Airflow Rate H/M/L (CFM)	388/353/328

Standard Features:

- Limited Warranty with LG Certified Installation
 - Two Year Functional Parts Warranty
- Corner Access Panels

Notes:

- The Power Input is rated at high speed.
- Maximum lift is 27 in from bottom of unit.
- See Engineering Manual for sensible and latent capacities.
- Sound Pressure levels are tested in an anechoic chamber under ISO Standard 1996.
- All communication cable to be minimum 18 AWG, 2-conductor, stranded, shielded and must comply with applicable local and national code.
- Power wiring cable size must comply with the applicable local and national code.
- This unit comes with a dry nitrogen charge.
- This data is rated 0 ft above sea level, with 25 ft of refrigerant line per indoor unit and a 0 ft level difference between outdoor and indoor units. All capacities are net with a combination ratio between 95 – 105%.
- Must follow installation instructions in the applicable LG installation manual.



ARNU153TQC2

Multi V™ 4-Way Ceiling Cassette

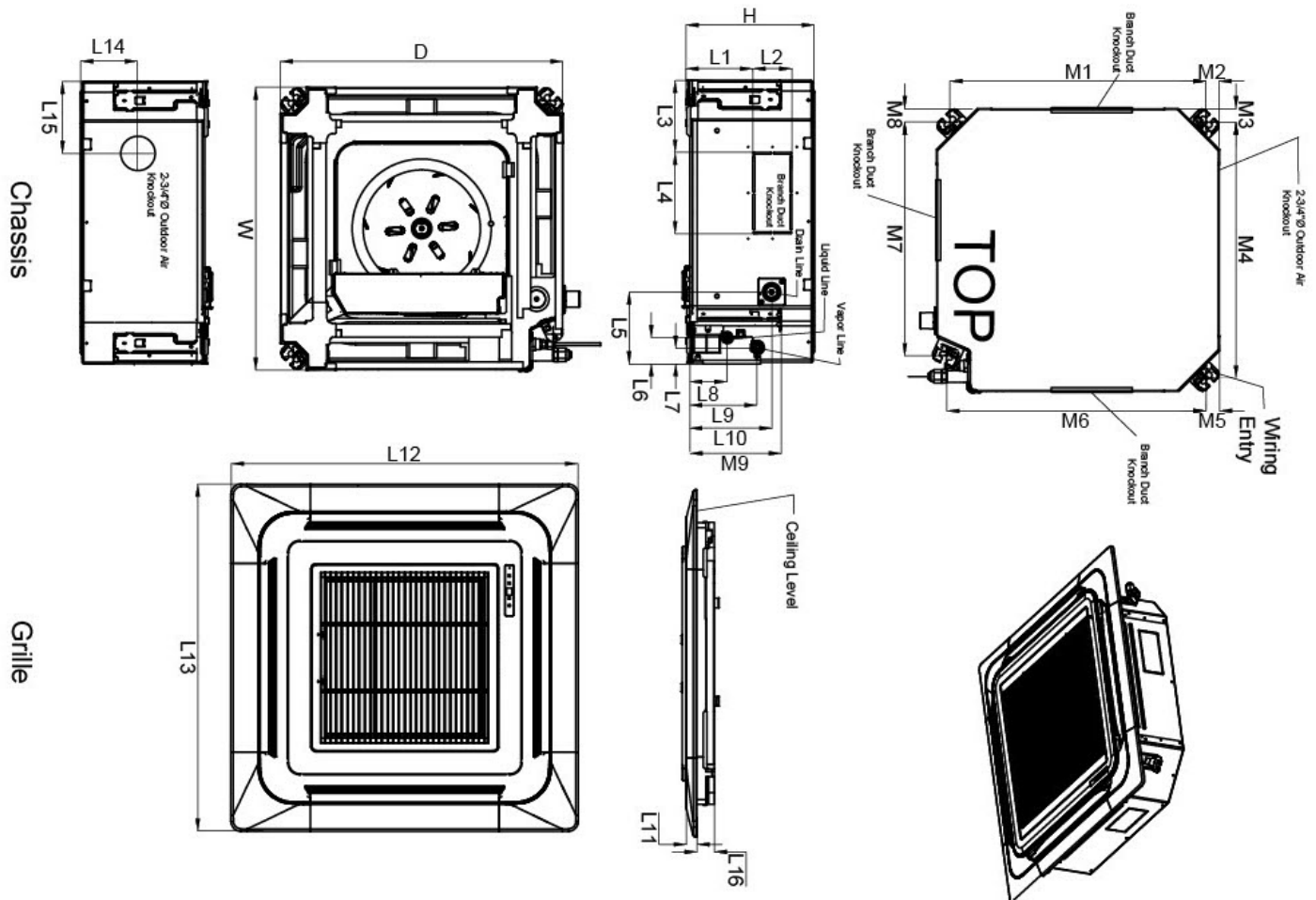
15,400 Btu/h Indoor Unit



Tag #: IU-5

Date:

PO No.:



W	22-7/16"
H	10"
D	22-7/16"
L1	5"
L2	3-1/8"
L3	5-13/16"
L4	6-1/2"
L5	5-5/8"
L6	1-15/16"
L7	1-3/16"
L8	2-11/16"
L9	5-1/16"
L10	6-1/4"
L11	7/8"
L12	27-9/16"
L13	27-9/16"
L14	3-1/8"
L15	5-5/8"
L16	1-3/16"
M1	20-3/8"
M2	1-1/16"
M3	1-1/16"
M4	20-3/8"
M5	1-1/16"
M6	20-5/8"
M7	18-3/16"
M8	1-1/16"
M9	6-5/16"

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

Date:	For:	File	Resubmit
PO No.:		Approval	Other _____
Architect:	GC:		
Engr:	Mech:		
Rep:			
(Company)	(Project Manager)		

PRHR041A**Multi V™ III Heat Recovery Unit****Performance:**

Max Port Capacity Btu/h (each port)	48,000
Max Unit Capacity Btu/h (sum of ports)	192,000
Power Input (W)	40

Electrical:

Power Supply (V/Hz/Ø)	208-230/60/1
Rated Amps (A)	0.16

Piping:**Refrigerant:**

Port Liquid Line (in, OD)	3/8
Port Vapor Line (in, OD)	5/8
System Liquid Line (in, OD)	5/8
System Vapor Line High (in, OD)	7/8
System Vapor Line Low (in, OD)	1-1/8

Standard Features:

- Allows connected indoor units to be in cooling or heating mode simultaneously
- Internal components are insulated
 - External casing insulation is not needed¹
 - Condensate drain not needed
- Series or parallel connection with additional heat recovery units
- Flexible placement for service access or pipe routing
- Access panels
 - Top panel for solenoid valve heads
 - Rear panel for control access
 - Bottom panel for refrigerant circuit

Unit Data:

Refrigerant Type	R410A
Number of Indoor Unit Ports ²	4
Net Unit Weight (lbs)	49
Shipping Weight (lbs)	57

Notes:

- 1.All refrigerant pipes require insulation.
- 2.Each port can allow up to 8 indoor units with a maximum capacity of 48 MBh per port.
- 3.All communication cable to be minimum 18 AWG, 2-conductor, stranded, shielded and must comply with applicable local and national code.
- 4.Kit components must be kept dry and free of debris before installation.
- 5.Must follow installation instructions in the applicable LG installation manual.
- 6.Power wiring cable size must comply with the applicable local and national code.
- 7.This unit comes with a dry nitrogen charge.



PRHR041A

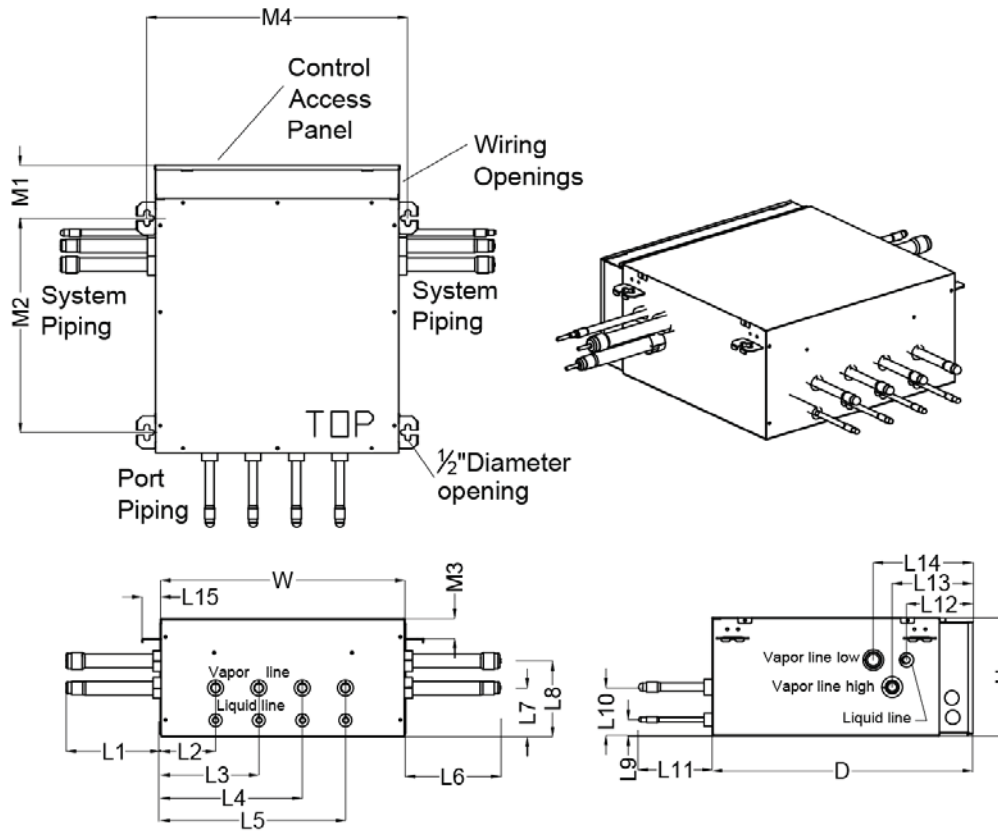
Multi V™ III Heat Recovery Unit



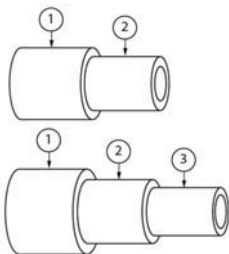
Tag #: DU-1

Date:

PO No.:



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



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

Job Name/Location:

Tag #:

Date:

For: ☐ File ☐ Resubmit

PO No.:

☐ Approval ☐ Other _____

Architect:

GC:

Engr:

Mech:

Rep:

(Company)

(Project Manager)

Indoor Y-Branch Kits

Multi V™ 3 Pipe

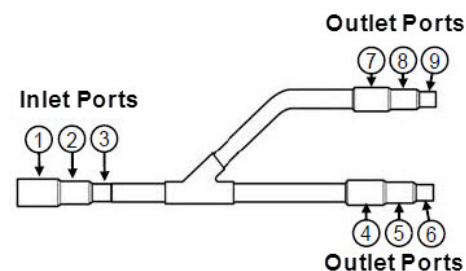
Insulation¹ Properties:

Material	Polyolefin Foam
UL94 Flame Classification	HF-1

Fitting Properties:

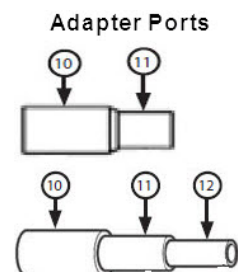
Material	Copper
Design Pressure	551 PSIG

Y-Branch Connection Diameters (in, ID)										
Model	Y-Branch Type	Port Identifier								
		1	2	3	4	5	6	7	8	9
ARBLB01621	Liquid	-	1/4	3/8	3/8	1/4	-	3/8	1/4	-
	Vapor Line Low	-	5/8	1/2	1/2	5/8	-	1/2	5/8	-
	Vapor Line High	3/8	5/8	1/2	1/2	5/8	3/8	1/2	5/8	3/8
ARBLB03321	Liquid	1/2	3/8	-	3/8	1/2	1/4	3/8	1/2	1/4
	Vapor Line Low	1	7/8	3/4	5/8	3/4	1/2	5/8	3/4	1/2
	Vapor Line High	3/4	1	7/8	7/8	3/4	5/8	7/8	3/4	5/8
ARBLB07121	Liquid	1/2	3/4	5/8	5/8	3/4	1/2	5/8	3/4	1/2
	Vapor Line Low	1-1/4	1-1/8	-	7/8	3/4	5/8	3/4	5/8	1/2
	Vapor Line High	1-1/8	1	-	7/8	1	3/4	7/8	1	3/4
ARBLB14521	Liquid	5/8	7/8	3/4	7/8	3/4	5/8	3/4	5/8	1/2
	Vapor Line Low	1-3/8	1-1/2	1-5/8	1-1/2	1-3/8	1-1/8	1-3/8	1-1/8	7/8
	Vapor Line High	1-1/8	1-3/8	1-1/4	1-1/8	1-1/4	1	1-1/8	1-1/4	1



Not to scale

Reducer Diameters (in)						
Model	Qty/Kit	Reducer Type	10	11	12	Length
ARBLB01621	2	Liquid	1/2 ID	3/8 OD	-	2-3/4
		Vapor Line Low	3/4 ID	5/8 OD	-	2-3/4
		Vapor Line High	-	-	-	-
ARBLB03321	5	Liquid	-	-	-	-
			7/8 ID	3/4 OD	-	2-3/4
			1 ID	7/8 ID	3/4 OD	4-11/32
		Vapor Line Low	1-1/8 ID	1 OD	-	3-5/32
			5/8 OD	1/2 ID	-	2-3/4
			5/8 OD	1/2 ID	3/8 ID	4-11/32
ARBLB07121	8	Liquid	1/2 OD	3/8 ID	-	2-3/4
			1-1/8 ID	7/8 ID	3/4 OD	4-23/32
			1-1/4 ID	1-1/8 ID	7/8 OD	4-23/32
		Vapor Line Low	1-3/8 ID	1-1/4 OD	-	3-17/32
			1/2 OD	3/8 ID	-	2-3/4
			3/4 OD	5/8 ID	-	2-3/4
		Vapor Line High	1/2 OD	3/8 ID	1/4 ID	4-11/32
			5/8 OD	1/2 ID	3/8 ID	4-11/32
			7/8 ID	3/4 OD	-	3-5/32
ARBLB14521	12	Liquid	5/8 OD	1/2 ID	-	2-3/4
			7/8 OD	3/4 ID	5/8 ID	4-23/32
			1-1/8 OD	7/8 ID	3/4 ID	4-23/32
		Vapor Line Low	1-5/8 ID	1-1/2 ID	1-3/8 OD	5-1/8
			1-5/8 ID	1-1/2 OD	-	3-17/32
			3/4 OD	5/8 ID	1/2 ID	4-11/32
		Vapor Line High	1/2 OD	3/8 ID	-	2-3/4
			1 OD	7/8 ID	-	3-5/32
			1 OD	7/8 ID	3/4 ID	4-23/32



Job Name/Location:

Indoor Y-Branch Kits

Multi V™ 3 Pipe

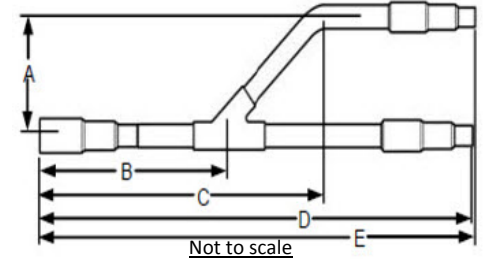


Tag #:

Date:

PO No.:

Y-Branch Dimensions ² (in)						
Model	Y-Branch Type	A	B	C	D	E
ARBLB01621	Liquid	2-29/32	6-9/16	8-1/32	11-1/16	11-1/2
	Vapor Line Low	2-29/32	4-1/2	7-31/32	11-1/16	11-1/2
	Vapor Line High	2-29/32	6-3/32	9-7/16	13-13/16	14-21/32
ARBLB03321	Liquid	2-29/32	4-1/2	8-1/32	12-5/8	13-1/16
	Vapor Line Low	3-9/32	6-29/32	10-7/8	15-11/32	16-1/4
	Vapor Line High	3-25/32	7-3/32	11-3/8	16-9/16	17-15/32
ARBLB07121	Liquid	3-9/32	6-1/8	10-1/32	14-9/32	15-1/2
	Vapor Line Low	3-25/32	5-1/2	10	14-13/16	15-29/32
	Vapor Line High	3-25/32	5-1/2	10-3/32	15	16-3/32
ARBLB14521	Liquid	3-25/32	7-3/32	11-11/16	16-3/8	17-15/32
	Vapor Line Low	4-29/32	7-7/8	13-23/32	18-17/32	20-11/32
	Vapor Line High	4-3/8	7-7/16	12-3/4	17-27/32	19-11/32



Notes:

1. Each Y-Branch kit comes with insulation for the following piping components - liquid, vapor line low and vapor line high.
2. LG branch fittings must be used. Field supplied branch fittings are not permitted.
3. Kit components must be kept dry and free of debris before installation.
4. Must follow installation instructions in the applicable LG installation manual.

Job Name : Moorpark College Parking
Purchaser :
Engineer : AE Group Mechanical Eng.
Submitted To : Thermalair, Inc.
Submitted By : Will Dashwood
Unit Designation : Schedule No.: SC-1

Location : Moorpark, CA.

P.O. No. :

Architect :

Date : 10-02-2012

For : ☐ Reference ☐ Approval ☐ Construction

Model No.:

Submittal Data : PQRCFCS0

Simple Wired Remote Controller for Hotel
for Multi V™



Standard Feature :

Available Functions

- On/Off
- Temperature Setting
- Fan Speed
- Air Flow Direction *
- Child Lock

Auto Addressing

Main/Sub Indoor Unit Setting

Group Control Up to 16 Indoor Units

Temp. Difference (ΔT) Setting Available with Multi V Sync II

Function Lock Central Controller can make some of individual control or setting prohibited

Operating Range (°F) Cooling/Dry 67 - 87

Heating 63 - 83

Auto 67 - 83

* Available with the indoor unit equipped for the function

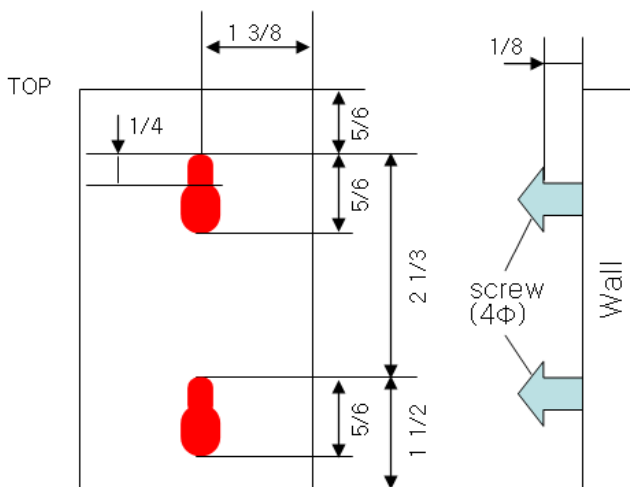
Wiring :

Connection Cable AWG #18, 4 wires (Shield Cable)

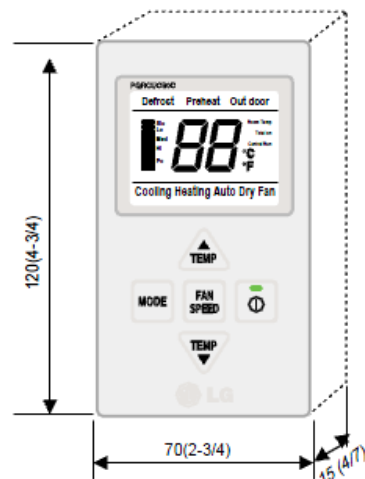
Unit Data :

Dimension (inches, W x H x D) 2 3/4 x 4 3/4 x 4/7

Weight (lbs) 0.18

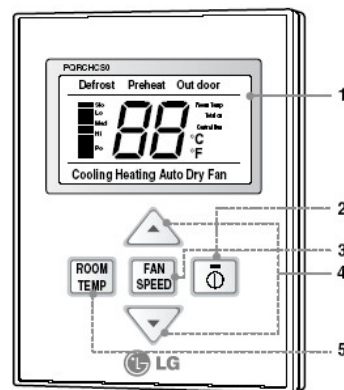


V-NET



Unit:mm(inch)

Weight : 80g(0.18 lb)



- 1 Display
- 2 On/Off
- 3 Fan Speed Selection
- 4 Room Temperature Setting
- 5 Room Temperature Checking Current Temperature

* Available with the indoor unit equipped for the function

Note :

Date:	For: ☐ File ☐ Resubmit
PO No.:	☐ Approval ☐ Other _____
Architect:	GC:
Engr:	Mech:
Rep:	
(Company)	(Project Manager)

PQCSW320A1E
AC Smart II

**Electrical:**

Power Supply	100-240 VAC 50/60 Hz (AC wall adapter provided with unit)
Power Consumption	18 W @ 12 VDC

Surrounding Conditions:

Operating Temperature	32-104 °F
Storage Temperature	-4-140 °F
Humidity	0-98% (non-condensing)

Unit Data:

Dimensions	8-1/2" W x 4-7/8" H x 1-9/16" D
Maximum Number of Indoor Units	64 (128 w/Expansion Kit)
Maximum Number of Outdoor Units	16 per V-net
Maximum Number of Controllers	2 per V-net

Standard Features:

- 7 inch LCD touchscreen
- Indoor Unit Control/Monitoring by Zones/Groups/Indoor Units
- Basic Web Access with User Access Control
- Operation and Error History Log
- Forced Off Dry Contact Input

Basic Unit Functions

- Operation – On/Off
- Mode – Auto/Cool/Dry/Heat/Fan Only
- Setpoint
- Fan Speed – Auto/Low/Med/High/Power
- Controller Lock All Function – On/Off/Setpoint/Mode/Fan Speed
- Individual Controller Lock Function – Setpoint/Mode/Fan Speed

Advanced Unit Functions

- Automatic changeover for two pipe systems
- 10 Programmable Schedules with Weekly and Daily Patterns and Exceptions
- Setpoint, On/Off, Mode, Fan Speed, Controller Lock Schedulable per half hour
- Temperature Setpoint Range Restriction
- Temperature Limit (Setback)
- Time Limit (Unoccupied Override)
- Error E-mail Notification
- Manual Control and Scheduling of Digital Output Kit
- Web Scheduling (Optional)
- Power Distribution Indicator (PDI) Output (Optional)

Notes:

Must follow installation instructions in the applicable LG installation manual.

Optional Accessories (sold separately)

- ☐ Web Schedule Option Card (PQCSE341A0)
- ☐ Web Schedule and PDI Option Card (PQCSE342A0)
- ☐ 128 Expansion Kit (PQCSE3440U0)
- ☐ Digital Output Kit (PQNFP00T0)

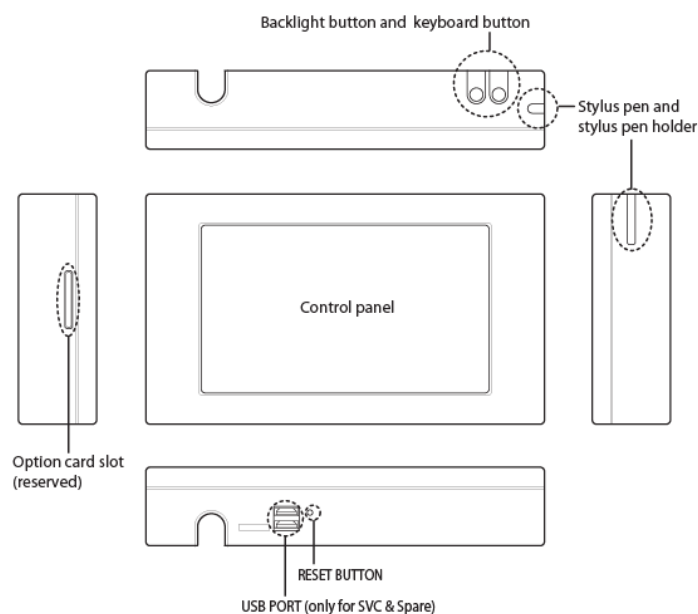
Connectivity:

LG Communications	1 Channel/RS-485 V-Net
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Communications Cabling Specifications (V-Net):

Type	2-conductor, stranded, shielded copper cable/PVC or vinyl jacket
Size	AWG 18-2
Maximum Length	3,280 ft (end to end)

AWG - American Wire Gage

Description:

LGE CAC USA	
MULTI-V INSTALLATION CHECKLIST	
REV E - JMW 6/25/09	CHECKED
MATERIALS	
COPPER	
OVER 5/8" RIGID ONLY "K" OR "L" ONLY	
5/8" AND UNDER SOFT ACR OK	
KEEP ALL PIPES CAPPED/CLEAN NO BURRS	
KEEP TRACK OF ACTUAL LENGTHS USED FOR REFRIG ADD	
ALL LINES INSULATED	
USE LG "Y" OR HEADERS PER LATS ONLY	
BALL VALVES FOR ALL IDU (SCHRADER FACING IDU)	
WIRE	
POWER TO ODU PER CODE	
POWER TO HR BOXES IF APPLICABLE	
POWER TO IDU PER CODE	
UNIT TO UNIT WIRING TO BE 18AWG STRANDED SHIELDED	
RING TERMINALS	
OTHER	
NITROGEN FOR PURGING DURING BRAZING(3 PSI RUNNING WHEN BRAZING)	
INSTALLATION	
COPPER INSTALLATION	
COPPER IN TRAYS AND/OR SUPPORTED W/ STRESS RELIEF	
"Y" INSTALLED NO MORE THAN +/- 10 DEG OF HORIZONTAL	
"Y" INSTALLED NO MORE THAN +/- 3 DEG OF VERTICAL	
HEADERS INSTALLED HORIZONTAL ONLY	
PIPING SUPPORTED PROPERLY - SLEEVED	
INSULATION NOT COMPRESSED AT SUPPORTS	
3 PSIG NITROGEN RUNNING WHEN BRAZING	
ALL LINES TO BE INSULATED(LIQUID, SUCTION, HOT GAS)	
SUPPORT "Y" AND HEADER PROPERLY	
"Y" FACE CORRECT DIRECTION	
NO TRAPS, SIGHT GLASS OR DRYERS TO BE INSTALLED	
BALL VALVES AT ALL IDU- BOTH LINES (RECOMMENDED)	
FIRST Y MORE THAN 3 FT FROM ODU	
DISTANCE BETWEEN "Y" 1.6 FT MINIMUM	
POWER AND CONTROL WIRING	
KEEP POWER AND CONTROL WIRES SEPARATED	
PIPING TESTING	
FIRST CHECK - MAIN PIPING ONLY	
USE PIPE INSTALLED GAUGE	
50 PSI 5 MINUTES	
250 PSI 15 MINUTES	
550 PSI 24 HOURS	
THIS VALIDATES MAIN LINES NO LEAKS	
ODU AND IDU INSTALLATION	
ODU DRAINS INSTALLED CORRECTLY(units w/ pumps 27" head standard)	
ODU SUPPORTED PROPERLY	
USE TORQUE WRENCH FOR FLARES TO PREVENT CRACKED FLARES	
45 DEG FLARES REQUIRED	
BALL VALVES OPEN AFTER IDU INSTALL	
SECOND CHECK WITH IDU AND ODU PIPED TO MAINS	
50 PSI 5 MINUTES	
250 PSI 15 MINUTES	
550 PSI 24 HOURS	
ODU - MULTIPLE UNITS OIL EQUALIZER LINE INSTALLED	
FROM ODU PERFORM TRIPLE EVAC BEFORE OPENING ODU SV (ALL LINES)	
EVAC1	
EVAC2	
EVAC3	
MAKE SURE TO EVACUATE OIL EQUALIZER LINE BETWEEN ODU	
WEIGH IN REF PER CALCULATED LENGTHS OR LATS	
CONTROL WIRING INSTALLATION	
UNIT TO UNIT WIRING TO BE DAISY CHAIN	
COMMUNICATION TYPE RS485 - BUS TOPOLOGY	
WIRE SHIELDS TOGETHER AND TO GROUND AT ODU	
USE RING TERMINALS FOR LASTING CONNECTION TO UNITS	
COMMISSIONING	
CONTACT LGE OR DISTRIBUTOR TSA 3 WEEKS BEFORE DATE REQ	
NOTE WARM UP IS REQUIRED FOR LOW AMBIENT START UP	