

Appendix B

Energy and Water Efficiency Report

To: Zach Zalban

From: Jason Lorcher

Date: March 18, 2022

Subject: CEQA Exemption (8) Energy and Water Efficiency Compliance:
The Stanley, 6435 Wilshire Blvd., Los Angeles, CA 90048

The purpose of this memo is to describe that The Stanley meets the 21155.1 CEQA exemption for transit priority project subsection (a) (8) requirement for energy and water efficiency. The Stanley is an 8-story project with a total of 68 residential units with associated amenity spaces.

The Subsection (a) (8) requirements:

The buildings in the transit priority project are 15 percent more energy efficient than required by Chapter 6 of Title 24 of the California Code of Regulations and the buildings and landscaping are designed to achieve 25 percent less water usage than the average household use in the region.

The energy and water efficiency compliance strategies are separately described below.
This project complies with both requirements, as follows:

- Energy Performance: 16.8% better than 2019 Title 24, Part 6
- Water Use Reduction Calculation: 64% below the MWD baseline

Sincerely,



Jason J. Lorcher, PE, CEA
Principal, CEO
CEA Number: NR19-15-30025



ENERGY AND WATER EFFICIENCY COMPLIANCE REPORT | v1.0

The Stanley

6435 Wilshire Blvd.
Los Angeles, CA 90048

March 18, 2022

prepared for

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1. EXECUTIVE SUMMARY

1.1. PROJECT DESCRIPTION

The Project consists of a new, sixty-eight (68) unit high-rise residential mixed-use construction project located at 6435 Wilshire in Los Angeles, California. The Project includes studios, one bedroom, two bedroom, and three bedroom unit with amenities for levels one through eight with two (2) levels of subterranean parking garage. The Project is generally described in the architectural entitlement drawing set package provided to the Consultant by the Client on January 13, 2022 as prepared by Studio One Eleven and dated February 1, 2021. The report sets forth the energy and water performance requirements for the project and the simulation process utilized, the simulation results, systems, and equipment modeled to achieve the simulation results. The systems and equipment modeled have been selected to meet the minimum energy requirements committed under the project's entitlement requirements and related programs and codes.

1.2. PROJECT TARGETS

The project has identified the following energy targets to ensure compliance with funding and code requirements:

- **21155.1 CEQA exemption for transit priority project subsection:** The buildings in the transit priority project are 15 percent more energy efficiency than required by Chapter 6 of the Title 24 of the California Code of Regulations and the buildings and landscaping are designed to achieve 25 percent less water usage than the average household in the region.

1.3. ENERGY SIMULATION PROCESS

The EnergyPro v8.3 (EP8) software platform was selected for demonstrating energy performance under the 2019 Building Energy Efficiency Standards (2019 Title 24, Part 6). The EP8 software links directly to the CBECC-Com and EnergyPlus simulation engines for compliance runs and is approved by the California Energy Commission (CEC) for use under the 2019 Building Energy Efficiency Standards. The building geometry was modeled within EP8 based on the architectural entitlement package provided to the Consultant by the Client on January 13, 2022 as prepared by Studio One Eleven and dated February 1, 2021. The energy model was developed under the Performance Method. Internal loads and schedules were specified in the model as dictated by the simulation protocol.

2. ENERGY EFFICIENCY

2.1. ENERGY EFFICIENCY MEASURES

The preliminary energy model for the building was developed basing our initial assumptions on the referenced project drawings and specifications and Prescriptive criteria outlined in 2019 Title 24, Part 6 Building Energy Efficiency Standards for high-rise residential buildings, when not defined. This prescriptive baseline is what the energy performance of the project will be ultimately compared against when we look at the percentage of time dependent value (TDV) energy savings over the Standard. The “Proposed Target” systems were used to generate the initial energy simulation results.

Building Envelope

- **External Wall Above L4 Podium (Wood framed) [U-factor]:** 0.070 (2x6, 16” O.C. R-21 cavity ins.)
- **External Wall Below L4 Podium (Metal framed) [U-factor]:** 0.145 (2x6, 16” O.C. R-21 cavity ins.)
- **Interior Wall (Wood framed) [U-factor]:** 0.097 (2x4, 16” O.C. R-13 cavity ins.)
- **Interior Wall (Metal framed) [U-factor]:** 0.150 (2x6, 16” O.C. R-21 cavity ins.)
- **Roof (Wood framed rafter) [U-factor]:** 0.037 (2x10 16” O.C. R-30 cavity ins.) (CRCC-1 Certified)
- **Floor / Soffits (Wood Framed) [U-factor]:** 0.072 (2x10 16” O.C. R-11 cavity ins.)
- **Floor (Concrete) [U-factor]:** 0.285 (100 lb/ft3 - 12 in.)

Envelope - Glazing

- **Window to Wall Ratio (WWR) [%]:** 43.0%. This worse case WWR was modeled for all exterior elevations as a conservative modeling decision at this phase of development.
- **Fixed Window (NFRC) [U-factor / SHGC / Vis Trans]:** 0.26 / 0.22 / 0.53
- **Operable Window (NFRC) [U-factor / SHGC / Vis Trans]:** 0.29 / 0.20 / 0.40
- **Glazed Doors (NFRC) [U-factor / SHGC / Vis Trans]:** 0.26 / 0.18 / 0.41
- **Curtainwall or Storefront (NFRC) [U-factor / SHGC / Vis Trans]:** 0.41 / 0.26 / 0.50

Lighting

- **Common area lighting:** The lighting has been modeled equivalent to baseline and no reductions have been taken.

HVAC - Space Heating and Cooling

- **High-efficiency 16 SEER split system heat pumps for heating, ventilating, and air-conditioning (HVAC):** Split system heat pumps have one outdoor unit connected to one indoor fan coil unit (FCU). Seasonal energy efficiency ratio (SEER) represents the “average” efficiency of HVAC equipment. By increasing this value over typical code-minimum efficiencies, the equipment provides the same amount of heating and cooling while using less electricity to operate it. Providing individual systems for each apartment allows the system to be powered from the tenant’s electric meter, which tends to encourage more responsible use and lower energy consumption.

Domestic Water (DHW) Heating

- **Central hot water system:** Central gas water heaters have a 0.97 Uniform Energy Factor and a 96% recovery efficiency and are assumed to serve the whole building DHW demands.

- High-efficiency water fixtures:** Using water-efficient fixtures (as described in Appendix B) inherently uses less hot water, which reduces the amount of water being heater and overall energy consumption.

2.2. HVAC EQUIPMENT SIZING AND SELECTION

The residential heating and cooling loads were analyzed per apartment unit and the HVAC systems were assigned based on these calculated loads. Cutsheets for product-specific data used in the analysis can be found in Appendix C.

Table 1 - HVAC System selection and assignment

HVAC System	Cooling		Heating	Fan
	SEER	EER	HSPF	Fan Power (hp)
1 Ton	16	12.2	8.5	0.07
1.5 Ton	16	12.2	8.5	0.07
2 Ton	16	12.2	8.5	0.17
3 Ton	16	12.2	8.5	0.32

**Performance data retrieved from AHRI product rating certificate. All system unit combinations must be AHRI certified. HVAC performance and sizing is a main driver of Title 24 performance.*

2.3. ENERGY SAVINGS SUMMARY

Once the energy simulation models were completed based on the Architectural Entitlement drawings, a comparative analysis was done to determine the energy and water performance relative to the Project Energy Targets above.

The performance of the current proposed design energy model (in kBtu/ sq.ft TDV) anticipates using 16.8% less energy than the Title 24-2019 energy code requirements for the building. Refer to the Appendix A: Building Energy Analysis Report below to see additional details about the result by each energy end-use.

3. WATER EFFICIENCY

3.1. WATER EFFICIENCY MEASURES

The water calculation table was developed based on the entitlement set. It was compared against the average regional water use in Gallons Per Capita Per Day of 127 gallons as stated in the Metropolitan Water District *Water Tomorrow Annual Report to the California State Legislature, Covering Fiscal Year 2021/2020* (pt. 2). This baseline is multiplied by 2.25, an estimated residential occupancy per unit to determine the average daily water use per residential unit, which is 285.8 gallons per unit per day.

The projected water fixture rates reflect the maximum allowed under the City of Los Angeles Green Building Code. Other elements are calculated using accepted industry practice. The fixture flow rates are as follows:

- **Showerheads:** 1.8 GPM (gallons per minute)
- **Lavatory faucets:** 1.2 GPM
- **Kitchen faucets:** 1.5 GPM
- **Tank water closets (toilets):** 1.28 GPF (gallons per flush)
- **Clothes washers:** Energy Star certified, 5.1 WF (water factor)
- **Dishwashers:** Energy Star certified, 4 GPC (gallons per cycle)
- **Pool:** Daily evaporation of ~60 gal/day based on summertime ambient conditions

3.2. WATER SAVINGS SUMMARY

Once the water table calculations were completed based on the Architectural Bid Set drawings, a comparative analysis was done to determine the water consumption relative to the regional average household water use. The savings of the current proposed water calculations (in gallons) anticipates using 64% less water than then regional average household water use. Refer to the Appendix B: Water Use Calculation Table.

APPENDIX A: TITLE 24-2019 COMPLIANCE REPORT

FULL REPORT ON FOLLOWING PAGES

Project Name:	The Stanley	NRCC-PRF-01-E	Page 1 of 25
Project Address:	6435 Wilshire Blvd. Los Angeles 90048	Calculation Date/Time:	08:15, Thu, Mar 17, 2022
Input File Name:	2022_0316_The Stanley_Initial Energy Model_2019T24.cibd19x		

A. GENERAL INFORMATION

1	Project Location (city)	Los Angeles	8	Standards Version	Compliance2019
2	CA Zip Code	90048	9	Compliance Software (version)	EnergyPro 8.3
3	Climate Zone	9	10	Weather File	LOS-ANGELES-DOWNTOWN_722874_CZ2010.epw
4	Total Conditioned Floor Area in Scope	55,610 ft ²	11	Building Orientation (deg)	(N) 8 deg
5	Total Unconditioned Floor Area	61,136 ft ²	12	Permitted Scope of Work	NewComplete
6	Total # of Stories (Habitable Above Grade)	8	13	Building Type(s)	High-Rise Residential
7	Total # of dwelling units	68	14	Gas Type	NaturalGas

B. PROJECT SUMMARY

Table Instructions: Table B shows which building components are included in the performance calculation. If indicated as not included, the project must show compliance prescriptively if within permit application.

Building Components Complying via Performance				Building Components Complying Prescriptively				
Envelope (see Table G)	<input checked="" type="checkbox"/>	Performance	Covered Process: Commercial Kitchens	<input type="checkbox"/>	Performance	<i>The following building components are ONLY eligible for prescriptive compliance and should be documented on the NRCC form listed if within the scope of the permit application (i.e. compliance will not be shown on the NRCC-PRF-E).</i>		
	<input type="checkbox"/>	Not Included		<input checked="" type="checkbox"/>	Not Included			
Mechanical (see Table H)	<input checked="" type="checkbox"/>	Performance	Covered Process: Computer Rooms	<input type="checkbox"/>	Performance	Indoor Lighting (Unconditioned)§140.6	NRCC-LTI-E	
	<input type="checkbox"/>	Not Included		<input checked="" type="checkbox"/>	Not Included	Outdoor Lighting §140.7	NRCC-LTO-E	
Domestic Hot Water (see Table I)	<input checked="" type="checkbox"/>	Performance	Covered Process: Laboratory Exhaust	<input type="checkbox"/>	Performance	Sign Lighting §140.8	NRCC-LTS-E	
	<input type="checkbox"/>	Not Included		<input checked="" type="checkbox"/>	Not Included	Mandatory Measures		
Lighting (Indoor Conditioned, see Table K)	<input checked="" type="checkbox"/>	Performance	<i>Electrical power systems, commissioning, solar ready, elevator and escalator requirements are mandatory and should on the NRCC form listed if applicable (i.e. compliance will not be shown on the NRCC-PRF-E.)</i>					
	<input type="checkbox"/>	Not Included					Electrical Power Distribution S110.11	NRCC-ELC-E
Solar Thermal Water Heating (see Table I)	<input type="checkbox"/>	Performance					Commissioning S120.8	NRCC-CXR-E
	<input checked="" type="checkbox"/>	Not Included					Solar Ready S110.10	NRCC-SRA-E

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C1. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ft²-yr)

COMPLIES

Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV) ¹
Space Heating	2.92	1.82	1.10
Space Cooling	34.07	30.06	4.01
Indoor Fans	17.02	9.52	7.50
Heat Rejection	0.80	--	0.80
Pumps & Misc.	2.49	--	2.49
Domestic Hot Water	20.36	22.58	-2.22
Indoor Lighting	3.85	3.85	--
ENERGY STANDARDS COMPLIANCE TOTAL	81.51	67.83	13.68 (16.8%)

¹ Notes: The number in parenthesis following the Compliance Margin in column 4. represents the Percent Better than Standard.

C2. RESULTS FOR 'ABOVE CODE' QUALIFICATIONS¹

<input type="checkbox"/> This project is pursuing CalGreen Tier 1		<input type="checkbox"/> This project is pursuing CalGreen Tier 2	
Miscellaneous Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV) ¹
Receptacle	68.90	68.90	--
Process	31.03	31.03	--
Other Ltg	36.71	36.71	--
Process Motors	8.17	8.17	--
COMPLIANCE TOTAL PLUS MISCELLANEOUS COMPONENTS	226.32	212.64	13.7 (6.0%)

¹ Notes: This table is used to document compliance with programs OTHER THAN Title 24 Part 6, if applicable.

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C3. ENERGY USE SUMMARY						
Energy Component	Standard Design Site (MWh)	Proposed Design Site (MWh)	Margin (MWh)	Standard Design Site (MBtu)	Proposed Design Site (MBtu)	Margin (MBtu)
Space Heating	0.0	4.2	-4.2	80.3	--	80.3
Space Cooling	46.0	38.4	7.6	--	--	--
Indoor Fans	27.6	17.7	9.9	--	--	--
Heat Rejection	1.1	--	1.1	--	--	--
Pumps & Misc.	5.0	--	5.0	--	--	--
Domestic Hot Water	1.4	7.6	-6.2	600.5	577.0	23.5
Indoor Lighting	7.2	7.2	0.0	--	--	-->
Compliance Total	88.3	75.1	13.2	680.8	577.0	103.8
Receptacle	134.2	134.2	0.0	--	--	--
Process	45.9	45.9	0.0	237.2	237.2	0.0
Other Ltg	71.1	71.1	0.0	--	--	--
Process Motors	16.5	16.5	0.0	--	--	--
TOTAL	356.0	342.8	13.2	918.0	814.2	103.8

D. EXCEPTIONAL CONDITIONS
The aged solar reflectance and aged thermal emittance must be listed in the Cool Roof Rating Council database of certified products. For projects where initial reflectance is used, the initial reflectance must be listed, and the aged reflectance is calculated by the software program and used in the compliance model.
This project includes mechanical ventilation systems for enclosed parking garages having total design exhaust rate greater than or equal to 10,000 cfm. Please verify the design meets the Mandatory Requirements for Enclosed Parking Garages as per Section 120.6 (c).
This project uses the Simplified Geometry Performance Modeling Approach which is not capable of modeling daylighting controls and assumes the prescriptive Secondary Daylit Control requirements are met. PRESCRIPTIVE COMPLIANCE documentation (form NRCC-LTI-02-E) for the requirements of section 140.6(d) Automatic Daylighting Controls in Secondary Daylit Zones is required.

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E. HERS VERIFICATION

The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building tables below.

- Building-level Verifications:**
- Residential ventilation airflow
 - Residential kitchen hood rated by HVI

G1. ENVELOPE GENERAL INFORMATION (conditioned spaces only)

1	2	3	4
Opaque Surfaces & Orientation	Total Gross Surface Area (ft ²)	Total Fenestration Area (ft ²)	Window to Wall Ratio (%)
North-Facing ¹	7,058 ft ²	3,035 ft ²	43.0%
East-Facing ²	10,010 ft ²	4,282 ft ²	42.8%
South-Facing ³	7,653 ft ²	3,667 ft ²	47.9%
West-Facing ⁴	9,371 ft ²	4,052 ft ²	43.2%
Total	34,092 ft²	15,036 ft²	44.1%
Roof	7,888 ft ²	0 ft ²	00.0%

Notes:
¹ North-Facing is oriented to within 45 degrees of true north, including 45°00'00" east of north (NE), but excluding 45°00'00" west of north (NW).
² East-Facing is oriented to within 45 degrees of true east, including 45°00'00" south of east (SE), but excluding 45°00'00" north of east (NE).
³ South-Facing is oriented to within 45 degrees of true south, including 45°00'00" west of south (SW), but excluding 45°00'00" east of south (SE).
⁴ West-Facing is oriented to within 45 degrees of true west, including 45°00'00" north of due west (NW), but excluding 45°00'00" south of west (SW).

G2. CRRC ROOFING PRODUCT SUMMARY

1	2	3	4	5
Assembly Name	Roof Pitch	Aged Solar Reflectance	Thermal Emittance	SRI
R-30 Wood Framed Roof CRR415	Low-Slope	0.63	0.75	Not Provided

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G3. OPAQUE SURFACE ASSEMBLY SUMMARY

1	2	3	4	5	6	7	8	9	10
Surface Name	Surface Type	Area (ft ²)	Framing Type	Cavity R-Value	Continuous R-Value	Units	Value	Description of Assembly Layers	Status
Slab On Grade9	UndergroundFloor	13708	NA	0	NA	F-Factor	0.73	Slab Type = UnheatedSlabOnGrade Insulation Orientation = None Insulation R-Value = R0	N
6 Concrete Wall11	UndergroundWall	9723	NA	0	NA	C-Factor	2.27	Concrete - 140 lb/ft3 - 6 in.	N
8 CMU Wall13	InteriorWall	2058	NA	0	NA	U-Factor	0.431	Concrete - Solid Grout - 105 lb/ft3 - 8 in.	N
12 Concrete Raised Slab43	ExteriorFloor	13772	NA	0	NA	U-Factor	0.331	Concrete - 100 lb/ft3 - 12 in.	N
12 Concrete Slab No Insu59	InteriorFloor	47297	NA	0	NA	U-Factor	0.253	Concrete - 100 lb/ft3 - 12 in. Linoleum/cork tile - 1/4 in.	N
8 CMU Wall131	ExteriorWall	7421	NA	0	NA	U-Factor	0.552	Concrete - Solid Grout - 105 lb/ft3 - 8 in.	N
Corr - Interior Metal Fra97	InteriorWall	6054	Metal	21	NA	U-Factor	0.140	Gypsum Board - 5/8 in. Metal framed wall, 16in. OC, 5.5in., R-21 Gypsum Board - 5/8 in. Gypsum Board - 5/8 in.	N
Res - Exterior Metal Fram102	ExteriorWall	7104	Metal	21	NA	U-Factor	0.146	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Gypsum Board - 5/8 in. Metal framed wall, 16in. OC, 5.5in., R-21 Gypsum Board - 5/8 in. Gypsum Board - 5/8 in.	N
R-11 Wood Framed Floor117	InteriorFloor	41969	Wood	11	NA	U-Factor	0.070	Gypsum Board - 5/8 in. Wood framed floor, 16in. OC, 9.25in., R-11 Plywood - 5/8 in. Fiber cement board - 88 lb/ft3 - 1/3 in. Linoleum/cork tile - 1/4 in.	N

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G3. OPAQUE SURFACE ASSEMBLY SUMMARY

1	2	3	4	5	6	7	8	9	10
Surface Name	Surface Type	Area (ft ²)	Framing Type	Cavity R-Value	Continuous R-Value	Units	Value	Description of Assembly Layers	Status
Unc - Interior Metal Fram141	InteriorWall	1783	Metal	21	NA	U-Factor	0.140	Gypsum Board - 5/8 in. Metal framed wall, 16in. OC, 5.5in., R-21 Gypsum Board - 5/8 in. Gypsum Board - 5/8 in.	N
Res - Exterior Wood Frame163	ExteriorWall	27122	Wood	21	NA	U-Factor	0.065	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Plywood - 3/8 in. Wood framed wall, 16in. OC, 5.5in., R-21 Gypsum Board - 5/8 in.	N
Res - Exterior Metal Fram1021	InteriorWall	189	Metal	21	NA	U-Factor	0.136	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Gypsum Board - 5/8 in. Metal framed wall, 16in. OC, 5.5in., R-21 Gypsum Board - 5/8 in. Gypsum Board - 5/8 in.	N
Unc - Interior Wood Frame255	InteriorWall	4440	Wood	13	NA	U-Factor	0.085	Gypsum Board - 5/8 in. Wood framed wall, 16in. OC, 3.5in., R-13 Gypsum Board - 5/8 in. Gypsum Board - 5/8 in.	N
Corr - Interior Wood Fram257	InteriorWall	13651	Wood	13	NA	U-Factor	0.091	Gypsum Board - 5/8 in. Wood framed wall, 16in. OC, 3.5in., R-13 Gypsum Board - 5/8 in.	N
R-30 Wood Framed Roof CRR415	Roof	7888	Wood	30	NA	U-Factor	0.036	Single Ply Roofing - 1/4 in. Vapor permeable felt - 1/8 in. Plywood - 1/2 in. Wood framed roof, 16in. OC, 9.25in., R-30 Gypsum Board - 5/8 in. Gypsum Board - 5/8 in.	N

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¹ Status: N - New, A - Altered, E - Existing

G4. OPAQUE DOOR SUMMARY		
1	2	3
Assembly Name	Overall U-factor	Status ¹
Metal Door16	0.700	N

G5. FENESTRATION ASSEMBLY SUMMARY								
1	2	3	4	5	6	7	8	9
Fenestration Assembly Name / Tag or I.D.	Fenestration Type / Product Type / Frame Type	Certification Method ¹	Assembly Method	Area ft ²	Overall U-factor	Overall SHGC	Overall VT	Status ²
Operable Windows	VerticalFenestration OperableWindow N/A	NFRC Rated	Manufactured	14201	0.29	0.20	0.40	N
Storefront	VerticalFenestration FixedWindow N/A	NFRC Rated	SiteBuilt	835	0.41	0.26	0.50	N

¹ Newly installed fenestration shall have a certified NFRC Label Certificate or use the CEC default tables found in Table 110.6-A and Table 110.6-B. Center of Glass (COG) values are for the glass-only, determined by the manufacturer, and are shown for ease of verification. Site-built fenestration values are calculated per Nonresidential Appendix NA6 and are used in the analysis.

² Status: N - New, A - Altered, E - Existing

H1. DRY SYSTEM EQUIPMENT (furnaces, air handling units, heat pumps, VRF, economizers etc.)											
1	2	3	4	5	6	7	8	9	10	11	12
Equipment Name	Equipment Type	Qty	Heating				Cooling			Economizer Type (if present)	Status ¹
			Total Heating Output (kBtu/h)	Supp Heat Output (kBtuh)	Efficiency Unit	Efficiency	Total Cooling Output (kBtu/h)	Efficiency Unit	Efficiency		
LB2 Pet Spa	SZHP (Split1Phase)	1	27	0	HSPF	8.500	18	SEER/EER	16.000/12.200	NoEconomizer	N
L1 Lobby_Mail	SZHP (Split1Phase)	3	27	0	HSPF	8.500	18	SEER/EER	16.000/12.200	NoEconomizer	N
L2 Leasing	SZHP (Split1Phase)	1	38	0	HSPF	8.500	30	SEER/EER	16.000/12.200	NoEconomizer	N

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H1. DRY SYSTEM EQUIPMENT (furnaces, air handling units, heat pumps, VRF, economizers etc.)

1	2	3	4	5	6	7	8	9	10	11	12
Equipment Name	Equipment Type	Qty	Heating				Cooling			Economizer Type (if present)	Status ¹
			Total Heating Output (kBtu/h)	Supp Heat Output (kBtuh)	Efficiency Unit	Efficiency	Total Cooling Output (kBtu/h)	Efficiency Unit	Efficiency		
L3 Fitness_Meditation	SZHP (Split1Phase)	1	27	0	HSPF	8.500	18	SEER/EER	16.000/12.200	NoEconomizer	N
L8 Lounge	SZHP (Split1Phase)	1	27	0	HSPF	8.500	18	SEER/EER	16.000/12.200	NoEconomizer	N
L3 1 Corner	SZHP (Split1Phase)	1	27	0	HSPF	8.500	18	SEER/EER	16.000 / 12.200	NA	N
L3 2 Block	SZHP (Split1Phase)	1	14	0	HSPF	8.500	11	SEER/EER	16.000 / 12.200	NA	N
L3 3 Corner	SZHP (Split1Phase)	1	27	0	HSPF	8.500	18	SEER/EER	16.000 / 12.200	NA	N
L3 4 Block	SZHP (Split1Phase)	3	27	0	HSPF	8.500	18	SEER/EER	16.000 / 12.200	NA	N
L3 5 Corner	SZHP (Split1Phase)	1	27	0	HSPF	8.500	18	SEER/EER	16.000 / 12.200	NA	N
L3 6 Corner	SZHP (Split1Phase)	1	27	0	HSPF	8.500	18	SEER/EER	16.000 / 12.200	NA	N
L3 7 Block	SZHP (Split1Phase)	1	14	0	HSPF	8.500	11	SEER/EER	16.000 / 12.200	NA	N
L3 8 Block	SZHP (Split1Phase)	1	27	0	HSPF	8.500	18	SEER/EER	16.000 / 12.200	NA	N
L4 1 Corner	SZHP (Split1Phase)	1	27	0	HSPF	8.500	18	SEER/EER	16.000 / 12.200	NA	N
L4 2 Block	SZHP (Split1Phase)	1	14	0	HSPF	8.500	11	SEER/EER	16.000 / 12.200	NA	N
L4 3 Corner	SZHP (Split1Phase)	1	27	0	HSPF	8.500	18	SEER/EER	16.000 / 12.200	NA	N
L4 4 Block	SZHP (Split1Phase)	3	14	0	HSPF	8.500	11	SEER/EER	16.000 / 12.200	NA	N

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H1. DRY SYSTEM EQUIPMENT (furnaces, air handling units, heat pumps, VRF, economizers etc.)

1	2	3	4	5	6	7	8	9	10	11	12
Equipment Name	Equipment Type	Qty	Heating				Cooling			Economizer Type (if present)	Status ¹
			Total Heating Output (kBtu/h)	Supp Heat Output (kBtu/h)	Efficiency Unit	Efficiency	Total Cooling Output (kBtu/h)	Efficiency Unit	Efficiency		
L4 5 Corner	SZHP (Split1Phase)	1	27	0	HSPF	8.500	18	SEER/EER	16.000 / 12.200	NA	N
L4 6 Corner	SZHP (Split1Phase)	1	27	0	HSPF	8.500	18	SEER/EER	16.000 / 12.200	NA	N
L4 7 Block	SZHP (Split1Phase)	3	14	0	HSPF	8.500	11	SEER/EER	16.000 / 12.200	NA	N
L4 8 Block	SZHP (Split1Phase)	1	27	0	HSPF	8.500	18	SEER/EER	16.000 / 12.200	NA	N
L5-7 1 Corner	SZHP (Split1Phase)	3	27	0	HSPF	8.500	18	SEER/EER	16.000 / 12.200	NA	N
L5-7 2 Block	SZHP (Split1Phase)	3	14	0	HSPF	8.500	11	SEER/EER	16.000 / 12.200	NA	N
L5-7 3 Corner	SZHP (Split1Phase)	3	27	0	HSPF	8.500	18	SEER/EER	16.000 / 12.200	NA	N
L5-7 4 Block	SZHP (Split1Phase)	9	14	0	HSPF	8.500	11	SEER/EER	16.000 / 12.200	NA	N
L5-7 5 Corner	SZHP (Split1Phase)	3	27	0	HSPF	8.500	18	SEER/EER	16.000 / 12.200	NA	N
L5-7 6 Corner	SZHP (Split1Phase)	3	27	0	HSPF	8.500	18	SEER/EER	16.000 / 12.200	NA	N
L5-7 7 Block	SZHP (Split1Phase)	9	14	0	HSPF	8.500	11	SEER/EER	16.000 / 12.200	NA	N
L5-7 8 Block	SZHP (Split1Phase)	3	27	0	HSPF	8.500	18	SEER/EER	16.000 / 12.200	NA	N
L8 2 Block	SZHP (Split1Phase)	1	14	0	HSPF	8.500	11	SEER/EER	16.000 / 12.200	NA	N
L8 4 Block	SZHP (Split1Phase)	3	27	0	HSPF	8.500	18	SEER/EER	16.000 / 12.200	NA	N

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H1. DRY SYSTEM EQUIPMENT (furnaces, air handling units, heat pumps, VRF, economizers etc.)

1	2	3	4	5	6	7	8	9	10	11	12
Equipment Name	Equipment Type	Qty	Heating				Cooling			Economizer Type (if present)	Status ¹
			Total Heating Output (kBtu/h)	Supp Heat Output (kBtu/h)	Efficiency Unit	Efficiency	Total Cooling Output (kBtu/h)	Efficiency Unit	Efficiency		
L8 5 Corner	SZHP (Split1Phase)	1	27	0	HSPF	8.500	18	SEER/EER	16.000 / 12.200	NA	N
L8 6 Corner	SZHP (Split1Phase)	1	27	0	HSPF	8.500	18	SEER/EER	16.000 / 12.200	NA	N
L8 7 Block	SZHP (Split1Phase)	3	14	0	HSPF	8.500	11	SEER/EER	16.000 / 12.200	NA	N
L8 3 Block	SZHP (Split1Phase)	1	30	0	HSPF	8.500	23	SEER/EER	16.000 / 12.200	NA	N

¹ Status: N - New, A - Altered, E - Existing

H2. FAN SYSTEMS SUMMARY

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Name or Item Tag	Qty	Design OA	Supply Fan					Return Fan					Status ¹
		CFM	CFM	Modeling Method	Power	Power Units	Control	CFM	Modeling Method	Power	Power Units	Control	
LB2 Pet Spa	1	0	540	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L1 Lobby_Mail	3	126	540	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L2 Leasing	1	283	989	BrakeHorsePower	0.320	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L3 Fitness_Meditation	1	134	540	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L8 Lounge	1	95	540	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L3 1 Corner	1	0	540	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L3 2 Block	1	0	413	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L3 3 Corner	1	0	540	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L3 4 Block	3	0	540	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N

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H2. FAN SYSTEMS SUMMARY													
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Name or Item Tag	Qty	Design OA	Supply Fan					Return Fan					Status ¹
		CFM	CFM	Modeling Method	Power	Power Units	Control	CFM	Modeling Method	Power	Power Units	Control	
L3 5 Corner	1	0	540	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L3 6 Corner	1	0	540	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L3 7 Block	1	0	413	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L3 8 Block	1	0	540	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L4 1 Corner	1	0	540	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L4 2 Block	1	0	413	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L4 3 Corner	1	0	540	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L4 4 Block	3	0	413	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L4 5 Corner	1	0	540	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L4 6 Corner	1	0	540	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L4 7 Block	3	0	413	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L4 8 Block	1	0	540	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L5-7 1 Corner	3	0	540	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L5-7 2 Block	3	0	413	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L5-7 3 Corner	3	0	540	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L5-7 4 Block	9	0	413	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L5-7 5 Corner	3	0	540	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L5-7 6 Corner	3	0	540	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L5-7 7 Block	9	0	413	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L5-7 8 Block	3	0	540	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L8 2 Block	1	0	413	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L8 4 Block	3	0	540	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L8 5 Corner	1	0	540	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L8 6 Corner	1	0	540	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N
L8 7 Block	3	0	413	BrakeHorsePower	0.070	bhp	ConstantVolume	NA	NA	NA	NA	NA	N

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H2. FAN SYSTEMS SUMMARY													
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Name or Item Tag	Qty	Design OA	Supply Fan					Return Fan					Status ¹
		CFM	CFM	Modeling Method	Power	Power Units	Control	CFM	Modeling Method	Power	Power Units	Control	
L8 3 Block	1	0	742	BrakeHorsePower	0.170	bhp	ConstantVolume	NA	NA	NA	NA	NA	N

¹ Status: N - New, A - Altered, E - Existing

H3. EXHAUST FAN SUMMARY							
1	2	3	4	5	6	7	8
System ID	Zone Name	Qty	CFM	Motor BHP	Power Per Flow (W/cfm)	Total Static Pressure (in. H ₂ O)	Status ¹
LB2 Pet Spa3	1-LB2 Pet Spa	1	101	0.036	0.307	1.45	N
LB2 Garage17	2-LB2 Garage	1	8,928	3.213	0.314	1.48	N
LB1 Garage55	10-LB1 Garage	1	8,498	3.059	0.314	1.48	N
L1 Garage66	13-L1 Garage	1	8,071	2.905	0.314	1.48	N
L2 Garage85	18-L2 Garage	1	8,143	2.931	0.314	1.48	N
L3 Restroom103	23-L3 Restroom	1	21	0.008	0.333	1.58	N
L3 Corridor106	24-L3 Corridor	1	206	0.141	0.597	2.82	N
L4 Corridor114	28-L4 Corridor	1	146	0.101	0.602	2.85	N
L5-7 Corridor123	32-L5-7 Corridor	3	146	0.101	0.602	2.85	N
L8 Corridor131	36-L8 Corridor	1	136	0.094	0.603	2.85	N

¹ Status: N - New, A - Altered, E - Existing

H4. Wet System Equipment(boilers,chillers,cooling towers,etc.)
This Section Does Not Apply

H5. PUMPS
This Section Does Not Apply

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H6. SYSTEM SPECIAL FEATURES

1	2	3	4
System Name	Equipment Type	Window Interlocks per §140.4(n)	Other Special Features and Controls
L1 Lobby_Mail	SZHP	No	NA
L2 Leasing	SZHP	No	NA
L8 Lounge	SZHP	No	NA
The Stanley2 - SHW	Service Hot Water, Primary Only	NA	Fixed Temperature Control

Notes: This table includes controls related to the performance path only. For projects using the prescriptive path, mandatory and prescriptive controls requirements are documented on the NRCC-MCH-E.

H7. NONRESIDENTIAL VENTILATION

1	2	3	4	5	6	7
Zone Name	Mechanical Ventilation					DCV or Occupant Sensor Controls, or Both
	Ventilation Function	# of people	Supply OA	Exhaust	Conditioned Area (sf)	
			CFM	CFM		
1-LB2 Pet Spa	Exhaust - Shower rooms	3.76	0	101	376	NA
37-L1 Lobby_Mail	Assembly - Lobbies	25.27	379	0	758	NA
38-L2 Leasing	Assembly - Lobbies	18.83	283	0	565	NA
39-L3 Fitness_Meditation	Sports/Entertainment - Health club/weight rooms	8.95	134	0	895	NA
40-L8 Lounge	Misc - All others	21.20	95	0	636	NA

H8. HIGH-RISE RESIDENTIAL DWELLING UNIT AND HOTEL/MOTEL VENTILATION

1	2	3	4	5	6	7	8
Zone Name	Mechanical Ventilation						DCV or Occupant Sensor Controls, or Both
	Ventilation Function	# hotel rooms	# of bedrooms	Supply OA	Exhaust	Conditioned Area (sf)	
				CFM	CFM		
41-L3 1 Corner	NA	0	2	70	70	1044	NA
42-L3 2 Block	NA	0	1	50	50	775	NA
43-L3 3 Corner	NA	0	2	70	70	1019	NA
44-L3 4 Block	NA	0	3	210	210	2289	NA

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H8. HIGH-RISE RESIDENTIAL DWELLING UNIT AND HOTEL/MOTEL VENTILATION

1	2	3	4	5	6	7	8
Zone Name	Mechanical Ventilation						DCV or Occupant Sensor Controls, or Both
	Ventilation Function	# hotel rooms	# of bedrooms	Supply OA	Exhaust	Conditioned Area (sf)	
				CFM	CFM		
45-L3 5 Corner	NA	0	1	50	50	678	NA
46-L3 6 Corner	NA	0	1	50	50	734	NA
47-L3 7 Block	NA	0	1	70	70	570	NA
48-L3 8 Block	NA	0	1	50	50	543	NA
49-L4 1 Corner	NA	0	2	70	70	1044	NA
50-L4 2 Block	NA	0	1	50	50	775	NA
51-L4 3 Corner	NA	0	2	70	70	1019	NA
52-L4 4 Block	NA	0	3	210	210	2289	NA
53-L4 5 Corner	NA	0	1	50	50	678	NA
54-L4 6 Corner	NA	0	1	50	50	734	NA
55-L4 7 Block	NA	0	3	150	150	2128	NA
56-L4 8 Block	NA	0	1	50	50	543	NA
57-L5-7 1 Corner	NA	0	2	70	70	1044	NA
58-L5-7 2 Block	NA	0	1	50	50	775	NA
59-L5-7 3 Corner	NA	0	2	70	70	1019	NA
60-L5-7 4 Block	NA	0	3	210	210	2289	NA
61-L5-7 5 Corner	NA	0	1	50	50	678	NA
62-L5-7 6 Corner	NA	0	1	50	50	734	NA
63-L5-7 7 Block	NA	0	3	150	150	2128	NA
64-L5-7 8 Block	NA	0	1	50	50	543	NA
65-L8 2 Block	NA	0	1	50	50	775	NA
66-L8 4 Block	NA	0	3	210	210	2289	NA
67-L8 5 Corner	NA	0	1	50	50	678	NA
68-L8 6 Corner	NA	0	1	50	50	734	NA

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H8. HIGH-RISE RESIDENTIAL DWELLING UNIT AND HOTEL/MOTEL VENTILATION

1	2	3	4	5	6	7	8
Zone Name	Mechanical Ventilation						DCV or Occupant Sensor Controls, or Both
	Ventilation Function	# hotel rooms	# of bedrooms	Supply OA	Exhaust	Conditioned Area (sf)	
				CFM	CFM		
69-L8 7 Block	NA	0	3	150	150	2128	NA
70-L8 3 Block	NA	0	3	80	80	1284	NA

H9. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY

1	2	3	4	5	6	7	8	9	10	11	12	13
System ID	Zone Name	System Type	Qty	Rated Capacity (kBtuh)		Airflow (cfm)			Fan			
				Heating	Cooling	Design	Min.	Min. Ratio	Power	Power Units	Cycles	VSD
L3 1 Corner	41-L3 1 Corner	SZHP	1	27.00	18.00	540	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
42-L3 1 Corner-EXH	41-L3 1 Corner	VentilationOnly Balanced	1	NA	NA	70	NA	NA	0.257	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>
L3 2 Block	42-L3 2 Block	SZHP	1	14.00	11.00	413	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
43-L3 2 Block-EXH	42-L3 2 Block	VentilationOnly Balanced	1	NA	NA	50	NA	NA	0.320	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>
L3 3 Corner	43-L3 3 Corner	SZHP	1	27.00	18.00	540	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
44-L3 3 Corner-EXH	43-L3 3 Corner	VentilationOnly Balanced	1	NA	NA	70	NA	NA	0.257	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>
L3 4 Block	44-L3 4 Block	SZHP	3	27.00	18.00	540	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
45-L3 4 Block-EXH	44-L3 4 Block	VentilationOnly Balanced	3	NA	NA	70	NA	NA	0.257	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>
L3 5 Corner	45-L3 5 Corner	SZHP	1	27.00	18.00	540	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
46-L3 5 Corner-EXH	45-L3 5 Corner	VentilationOnly Balanced	1	NA	NA	50	NA	NA	0.320	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>
L3 6 Corner	46-L3 6 Corner	SZHP	1	27.00	18.00	540	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
47-L3 6 Corner-EXH	46-L3 6 Corner	VentilationOnly Balanced	1	NA	NA	50	NA	NA	0.320	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>

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H9. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY

1	2	3	4	5	6	7	8	9	10	11	12	13
System ID	Zone Name	System Type	Qty	Rated Capacity (kBtuh)		Airflow (cfm)			Fan			
				Heating	Cooling	Design	Min.	Min. Ratio	Power	Power Units	Cycles	VSD
L3 7 Block	47-L3 7 Block	SZHP	1	14.00	11.00	413	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
48-L3 7 Block-EXH	47-L3 7 Block	VentilationOnly Balanced	1	NA	NA	70	NA	NA	0.257	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>
L3 8 Block	48-L3 8 Block	SZHP	1	27.00	18.00	540	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
49-L3 8 Block-EXH	48-L3 8 Block	VentilationOnly Balanced	1	NA	NA	50	NA	NA	0.320	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>
L4 1 Corner	49-L4 1 Corner	SZHP	1	27.00	18.00	540	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
50-L4 1 Corner-EXH	49-L4 1 Corner	VentilationOnly Balanced	1	NA	NA	70	NA	NA	0.257	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>
L4 2 Block	50-L4 2 Block	SZHP	1	14.00	11.00	413	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
51-L4 2 Block-EXH	50-L4 2 Block	VentilationOnly Balanced	1	NA	NA	50	NA	NA	0.320	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>
L4 3 Corner	51-L4 3 Corner	SZHP	1	27.00	18.00	540	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
52-L4 3 Corner-EXH	51-L4 3 Corner	VentilationOnly Balanced	1	NA	NA	70	NA	NA	0.257	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>
L4 4 Block	52-L4 4 Block	SZHP	3	14.00	11.00	413	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
53-L4 4 Block-EXH	52-L4 4 Block	VentilationOnly Balanced	3	NA	NA	70	NA	NA	0.257	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>
L4 5 Corner	53-L4 5 Corner	SZHP	1	27.00	18.00	540	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
54-L4 5 Corner-EXH	53-L4 5 Corner	VentilationOnly Balanced	1	NA	NA	50	NA	NA	0.320	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>
L4 6 Corner	54-L4 6 Corner	SZHP	1	27.00	18.00	540	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
55-L4 6 Corner-EXH	54-L4 6 Corner	VentilationOnly Balanced	1	NA	NA	50	NA	NA	0.320	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>
L4 7 Block	55-L4 7 Block	SZHP	3	14.00	11.00	413	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
56-L4 7 Block-EXH	55-L4 7 Block	VentilationOnly Balanced	3	NA	NA	50	NA	NA	0.320	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>

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H9. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY

1	2	3	4	5	6	7	8	9	10	11	12	13
System ID	Zone Name	System Type	Qty	Rated Capacity (kBtuh)		Airflow (cfm)			Fan			
				Heating	Cooling	Design	Min.	Min. Ratio	Power	Power Units	Cycles	VSD
L4 8 Block	56-L4 8 Block	SZHP	1	27.00	18.00	540	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
57-L4 8 Block-EXH	56-L4 8 Block	VentilationOnly Balanced	1	NA	NA	50	NA	NA	0.320	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>
L5-7 1 Corner	57-L5-7 1 Corner	SZHP	3	27.00	18.00	540	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
58-L5-7 1 Corner-EXH	57-L5-7 1 Corner	VentilationOnly Balanced	3	NA	NA	70	NA	NA	0.257	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>
L5-7 2 Block	58-L5-7 2 Block	SZHP	3	14.00	11.00	413	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
59-L5-7 2 Block-EXH	58-L5-7 2 Block	VentilationOnly Balanced	3	NA	NA	50	NA	NA	0.320	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>
L5-7 3 Corner	59-L5-7 3 Corner	SZHP	3	27.00	18.00	540	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
60-L5-7 3 Corner-EXH	59-L5-7 3 Corner	VentilationOnly Balanced	3	NA	NA	70	NA	NA	0.257	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>
L5-7 4 Block	60-L5-7 4 Block	SZHP	9	14.00	11.00	413	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
61-L5-7 4 Block-EXH	60-L5-7 4 Block	VentilationOnly Balanced	9	NA	NA	70	NA	NA	0.257	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>
L5-7 5 Corner	61-L5-7 5 Corner	SZHP	3	27.00	18.00	540	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
62-L5-7 5 Corner-EXH	61-L5-7 5 Corner	VentilationOnly Balanced	3	NA	NA	50	NA	NA	0.320	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>
L5-7 6 Corner	62-L5-7 6 Corner	SZHP	3	27.00	18.00	540	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
63-L5-7 6 Corner-EXH	62-L5-7 6 Corner	VentilationOnly Balanced	3	NA	NA	50	NA	NA	0.320	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>
L5-7 7 Block	63-L5-7 7 Block	SZHP	9	14.00	11.00	413	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
64-L5-7 7 Block-EXH	63-L5-7 7 Block	VentilationOnly Balanced	9	NA	NA	50	NA	NA	0.320	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>
L5-7 8 Block	64-L5-7 8 Block	SZHP	3	27.00	18.00	540	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
65-L5-7 8 Block-EXH	64-L5-7 8 Block	VentilationOnly Balanced	3	NA	NA	50	NA	NA	0.320	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>

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H9. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY

1	2	3	4	5	6	7	8	9	10	11	12	13
System ID	Zone Name	System Type	Qty	Rated Capacity (kBtuh)		Airflow (cfm)			Fan			
				Heating	Cooling	Design	Min.	Min. Ratio	Power	Power Units	Cycles	VSD
L8 2 Block	65-L8 2 Block	SZHP	1	14.00	11.00	413	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
66-L8 2 Block-EXH	65-L8 2 Block	VentilationOnly Balanced	1	NA	NA	50	NA	NA	0.320	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>
L8 4 Block	66-L8 4 Block	SZHP	3	27.00	18.00	540	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
67-L8 4 Block-EXH	66-L8 4 Block	VentilationOnly Balanced	3	NA	NA	70	NA	NA	0.257	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>
L8 5 Corner	67-L8 5 Corner	SZHP	1	27.00	18.00	540	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
68-L8 5 Corner-EXH	67-L8 5 Corner	VentilationOnly Balanced	1	NA	NA	50	NA	NA	0.320	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>
L8 6 Corner	68-L8 6 Corner	SZHP	1	27.00	18.00	540	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
69-L8 6 Corner-EXH	68-L8 6 Corner	VentilationOnly Balanced	1	NA	NA	50	NA	NA	0.320	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>
L8 7 Block	69-L8 7 Block	SZHP	3	14.00	11.00	413	NA	NA	0.070	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
70-L8 7 Block-EXH	69-L8 7 Block	VentilationOnly Balanced	3	NA	NA	50	NA	NA	0.320	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>
L8 3 Block	70-L8 3 Block	SZHP	1	30.00	23.00	742	NA	NA	0.170	bhp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
71-L8 3 Block-EXH	70-L8 3 Block	VentilationOnly Balanced	1	NA	NA	80	NA	NA	0.237	W/cfm	<input type="checkbox"/>	<input type="checkbox"/>
1-LB2 Pet Spa-Trm	1-LB2 Pet Spa	Uncontrolled	1	NA	NA	540	NA	0.00	0.070	bhp	NA	<input type="checkbox"/>
37-L1 Lobby_Mail-Trm	37-L1 Lobby_Mail	Uncontrolled	3	NA	NA	1620	NA	0.00	0.070	bhp	NA	<input type="checkbox"/>
38-L2 Leasing-Trm	38-L2 Leasing	Uncontrolled	1	NA	NA	989	NA	0.00	0.320	bhp	NA	<input type="checkbox"/>
39-L3 Fitness_Meditation- Trm	39-L3 Fitness_Meditation	Uncontrolled	1	NA	NA	540	NA	0.00	0.070	bhp	NA	<input type="checkbox"/>
40-L8 Lounge-Trm	40-L8 Lounge	Uncontrolled	1	NA	NA	540	NA	0.00	0.070	bhp	NA	<input type="checkbox"/>

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H10. EVAPORATIVE COOLER SUMMARY
This Section Does Not Apply

H11. HEAT RECOVERY SUMMARY
This Section Does Not Apply

I1. WATER HEATER EQUIPMENT SUMMARY													
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Name	Heater Element Type	Tank Type	Qty	Tank Vol (gal)	Rated Input	Rated Input Unit	Efficiency	Efficiency Unit	Tank Insulation R-value (Int/Ext)	Standby Loss Fraction	1st Hour Rating or Flow Rate (gal)	Heat Pump Type	Tank Location or Ambient Condition
Lochinvar AWN801PM1	Gas	Instantaneous	2	1.00	800	kBtu/h	0.96	Thrml. Eff.	NA	0.000	NA	NA	NA
Lochinvar AWN801PM1 2	Gas	Commercial Instantaneous (TE)	2	1.00	800	kBtu/h	0.960	Thrml. Eff.	NA	NA	NA	NA	NA

I2. MULTI-FAMILY WATER HEATING SYSTEM DETAIL								
1	2	3	4	5	6	7	8	9
System Name	Configuration	Type	Qty in System	Multi-Family Distribution Type	Dwelling Unit Distribution Type	Water Heater Name	Solar Heating System	Compact Distribution
MF0-Lochinvar AWN801PM1	"Domestic Hot Water (DHW)"	Central	2	No Control (continuous pumping)	Standard	Lochinvar AWN801PM1 2	NA	NA

I5. RECIRCULATION LOOPS					
1	2	3	4	5	6
Water Heating System Name	Number of Recirculation Loops	Loop Insulation Thickness (in)	Recirculation Loop Location	Recirculation Pump Power	Recirculation Pump Power Units
MF0-Lochinvar AWN801PM1	2	1.5	Conditioned	436.2	Watts

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J1. ENCLOSED PARKING GARAGES				
1	2	3	4	5
Garage Exhaust System Name	Design Exhaust Flow Rate (cfm)	Minimum Exhaust Flow Rate (cfm)	Fan Power (Watts)	CO Control Yes/No
LB2 Garage17	8,928	2,678	2.802	Yes
LB1 Garage55	8,498	2,550	2.668	Yes
L1 Garage66	8,071	2,421	2.533	Yes
L2 Garage85	8,143	2,443	2.556	Yes

K1. INDOOR CONDITIONED LIGHTING GENERAL INFO					
1	2	3	4	5	6
Occupancy Type ¹	Conditioned Floor Area ² (ft ²)	Installed Lighting Power (Watts)	Lighting Control Credits (Watts)	Additional (Custom) Allowance	
				Area Category Footnotes (Watts)	Tailored Method (Watts)
Locker Room	376	169	0	0	0
Main Entry Lobby	1,323	1,124	0	0	0
Exercise/Fitness Center and Gymnasium Areas	895	448	0	0	0
High-Rise Residential Living Spaces	52,380		0	0	0
Lounge, Breakroom, or Waiting Area	636	413	0	0	0
Building Totals:	55,610	2,154	0	0	0

¹ See Table 140.6-C

² See NRCC-LTI-01-E for unconditioned spaces

³ Lighting information for existing spaces modeled is not included in the table

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K4. INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROLS							
Building Level Controls							
1			2				
Mandatory Demand Response §110.12(c)			Shut-Off Controls §130.1(c)				
Required			Required				
Area Level Controls (includes all lighting controls installed in conditioned space to meet mandatory requirements per §130.1)							
4	5		6	7	8	9	10
Area Description	Area Category Primary Function Area		Area Controls 130.1(a)	Multi-Level Controls 130.1(b)	Shut-Off Controls 130.1(c)	Primary Daylighting 130.1(d)	Secondary Daylighting 140.5(d)

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L. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Installation must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online at:
https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Building Component	Form/Title
Envelope	NRCI-ENV-01-E - Must be submitted for all buildings
Mechanical	NRCI-MCH-01-E - Must be submitted for all buildings
Plumbing	NRCI-PLB-01-E - Must be submitted for all buildings
	NRCI-PLB-02-E - Must be submitted for high-rise residential and hotel/ motel central hot water distribution systems to be recognized for compliance
Indoor Lighting	NRCI-LTI-01-E - Must be submitted for all buildings

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M. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/

Building Component	Form/Title
Envelope	NRCA-ENV-02-F - NRFC label verification for fenestration
Indoor Lighting	NRCA-LTI-02-A - Occupancy Sensors and Automatic Time Switch Controls
	NRCA-LTI-04-A - Demand Responsive Lighting Controls
Mechanical	NRCA-MCH-02-A Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap
	NRCA-MCH-03-A Constant Volume Single Zone HVAC
	NRCA-MCH-11-A Automatic Demand Shed Controls
	NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance
	NRCA-MCH-20 Multifamily Ventilation

Project Name:	The Stanley	NRCC-PRF-01-E	Page 24 of 25
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N. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Verification must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online at:
https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCV/

Building Component	Form/Title
Mechanical	NRCV-MCH-27 Indoor Air Quality & Mechanical Ventilation
	NRCV-MCH-32-H Local Mechanical Exhaust

Project Name:	The Stanley	NRCC-PRF-01-E	Page 25 of 25
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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
<i>I certify that this Certificate of Compliance documentation is accurate and complete.</i>	
Documentation Author Name:	Signature:  Cooper Gibson CA PE Lic#: M40937
Company: Green Dinosaur, Inc.	
Address:	Signature Date: 2022-03-17
City/State/Zip:	CEA/ HERS Certification Identification (if applicable):
Phone:	

RESPONSIBLE PERSON'S DECLARATION STATEMENT	
<i>I certify the following under penalty of perjury, under the laws of the State of California:</i>	
<ol style="list-style-type: none"> The information provided on this Certificate of Compliance is true and correct. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer) The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy. 	

Responsible Envelope Designer Name:	Signature:	
Company: studioneleven		
Address: 245 East 3rd St.	Date Signed:	
City/State/Zip: Long Beach CA 90802		
Phone: 5629011500	Title:	License #:

Responsible Lighting Designer Name:	Signature:	
Company:		
Address:	Date Signed:	
City/State/Zip:		
Phone:	Title:	License #:

Responsible Mechanical Designer Name: - specify -	Signature:	
Company:		
Address:	Date Signed:	
City/State/Zip:		
Phone:	Title:	License #:

APPENDIX B: WATER USE CALCULATION TABLE

FULL REPORT ON FOLLOWING PAGES

3/17/2022
The Stanley

Water Use Calculation Table

Fixture Type	Flow Rate* (gpm or gpf)	Duration (min or # flush)	Daily Uses	Occupants	Gallons Per Day
Residential Water Use					
Showerheads	1.8 x	8 x	1 x	170 =	2448.0
Lavatory faucets	1.2 x	0.25 x	5 x	170 =	255.0
Kitchen faucets	1.5 x	4 x	1 x	170 =	1020.0
Tank water closets (M)	1.28 x	1 x	5 x	170 =	1088.0
Tank water closets (F)	1.28 x	1 x	5 x	170 =	1088.0
				Subtotal	= 5899.0
Clotheswashers (gal/person-day)**	5.1			170 =	867.0
Dishwashers (gal/person-day)***	0.43			170 =	73.1
Potable Water Irrigation (daily) ****				=	102.2
Pool evaporation (daily)				=	60.2
Total Daily Baseline Water Use (BWU) in Gallons Per Day					= 7001.5
Average use per Household per Day = 7001.5/68					= 103.0

Current Water Use per Multi-Family Household (MWD 2020/21 Annual Report Gallons Per Capita Per Day of 127 x estimate of 2.25 occupants per multi-family residential unit x 68)	19431
Water Use per Unit per Day (inc. appliances & irrigation)	285.8
Percent Reduction from MWD Baseline	64.0%

Assumptions

68 units, with a mix of Studio, 1BD, 2BD, 3BD; 153 estimated occupants; assuming 2.25 persons per unit
* Flow rates are the maximum allowed under City of Los Angeles Green Building Code (Form GRN 16).
** Clothes Washer assumed in each unit. Los Angeles Green Building Code requires Energy Star certified units. Typical Energy Star unit = 3.2 WF (Water Factor) = 5.08 gal per person per day.
*** Dishwasher assumed in each unit. Los Angeles Green Building Code required Energy Star certified units. Typical Energy Star unit = 4 GPC (Gallons per Cycle) = 0.43 per person per day.
****irrigation potable water was estimated by using LEED v4 are assumed to be native landscaping with a daily potable water gallons rate shown above (grey water expected to make up if additional irrigation is needed pending final landscaping designs).

APPENDIX C: PRODUCT DATA

FULL REPORT ON FOLLOWING PAGES

Submittal Data

CS-E18SDU3AW

Multi Split Slim Ducted Indoor Unit

Job Name: _____
 Location: _____
 Engineer: _____
 Submitted to: _____
 Submitted by: _____
 Reference: _____

Approval: _____
 Date: _____
 Construction: _____
 Unit#: _____
 Drawing#: _____

General Data	
Power (V/P/Hz)	230/208/1/60
Circuit Ampacity (A)	20
Fuse Size, Max. (A)	20
Indoor Unit	
Fan Type	Sirocco
Motor Type, No. of Poles	DC Motor (8-Poles)
No. Speeds	5
RPM (Cool/Heat), High	1408/1480
No. Motors (W)	1/51
CFM (Qlo/Lo/Me/Hi/SHi) Cooling	342/364/452/540/558
CFM (Qlo/Lo/Me/Hi/SHi) Heating	342/364/452/540/558
Operating Sound-Hi/Me/Lo/ dB-A (Cool)	41/30/27
Fin Material	Aluminum (Pre Coat)
Fin Type	Slit Fin
Row x Stage x FPI	3 x 12 x 18
Size (mm)	590 x 282 x 38.1
Drain Connection Size inner diameter (in.)	5/8
Refrigerant	R410
Refrigerant Tubing Connections	
Line Length, Max (ft.)	82'
Elevation Difference, Max (ft.)	49.2'
Line Size (in. O.D. Discharge)	1/4"
Line Size (in. O.D. Suction)	3/8"
Dimensions (H x W x D)	
Indoor Unit (Uncrated) (in.)	7-7/8 x 29-17/32 x 25-7/32
Weight (lbs.)	
(Indoor) Net	42 lbs



51 watt = 0.07 hp

Features	
Controls	Microprocessor
Remote Controller	LCD Wireless Type included as standard with receiver
Wired Remote Controller	Optional
Temperature Control	IC Thermistor
Timer	Single Event Daily ON/OFF TIMER
Quiet Mode	Included
High Power Mode	Included
Air Louver, Horizontal	NA
Air Louver, Vertical	NA
Power Failure Automatic Restart	Built-In
Drain Pump	Built-In
Heating/Cooling Automatic Changeover	Built-In
Self-Diagnosis	Built-In
Air Filter	Washable, One-touch

Operating Range	Indoor Air Intake Temp
Cooling (Max DB / WB)	89.6 F / 73.4 F
Cooling (Min DB / WB)	60.8 F / 51.8 F
Heating (Max DB / WB)	86.0 F / -/-
Heating (Min DB / WB)	60.8 F / -/-

Data is Subject to Change.

Submittal Data

CS-E12SDU3AW

Multi Split Slim Ducted Indoor Unit

Job Name: _____
 Location: _____
 Engineer: _____
 Submitted to: _____
 Submitted by: _____
 Reference: _____

Approval: _____
 Date: _____
 Construction: _____
 Unit#: _____
 Drawing#: _____

General Data	
Power (V/P/Hz)	230/208/1/60
Circuit Ampacity (A)	15
Fuse Size, Max. (A)	15
Indoor Unit	
Fan Type	Sirocco
Motor Type, No. of Poles	DC Motor (8-Poles)
No. Speeds	5
RPM (Cool/Heat), High	1280/1280
No. Motors (W)	1/51 51 watt = 0.07 hp
CFM (Qlo/Lo/Me/Hi/SHi) Cooling	328/350/413/475/523
CFM (Qlo/Lo/Me/Hi/SHi) Heating	300/328/403/475/523
Operating Sound-Hi/Me/Lo/ dB-A (Cool)	35/28/25
Fin Material	Aluminum (Pre Coat)
Fin Type	Slit Fin
Row x Stage x FPI	3 x 12 x 18
Size	590 x 282 x 38.1
Drain Connection Size inner diameter (in.)	5/8
Refrigerant	R410
Refrigerant Tubing Connections	
Line Length, Max (ft.)	82'
Elevation Difference, Max (ft.)	49.2'
Line Size (in. O.D. Discharge)	1/4"
Line Size (in. O.D. Suction)	3/8"
Dimensions (H x W x D)	
Indoor Unit (Uncrated) (in.)	17-7/8 x 29-17/32 x 25-7/32
Weight (lbs.)	
(Indoor) Net	42 lbs

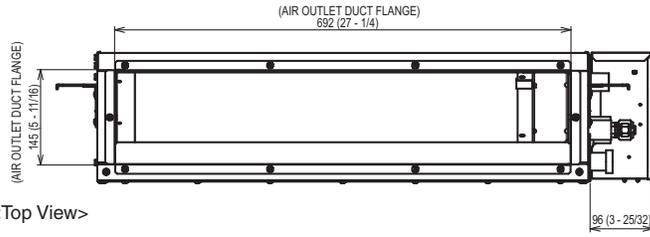


Features	
Controls	Microprocessor
Remote Controller	LCD Wireless Type included as standard with receiver
Wired Remote Controller	Optional
Temperature Control	IC Thermistor
Timer	Single Event Daily ON/OFF TIMER
Quiet Mode	Included
High Power Mode	Included
Air Louver, Horizontal	NA
Air Louver, Vertical	NA
Power Failure Automatic Restart	Built-In
Drain Pump	Built-In
Heating/Cooling Automatic Changeover	Built-In
Self-Diagnosis	Built-In
Air Filter	Washable, One-touch

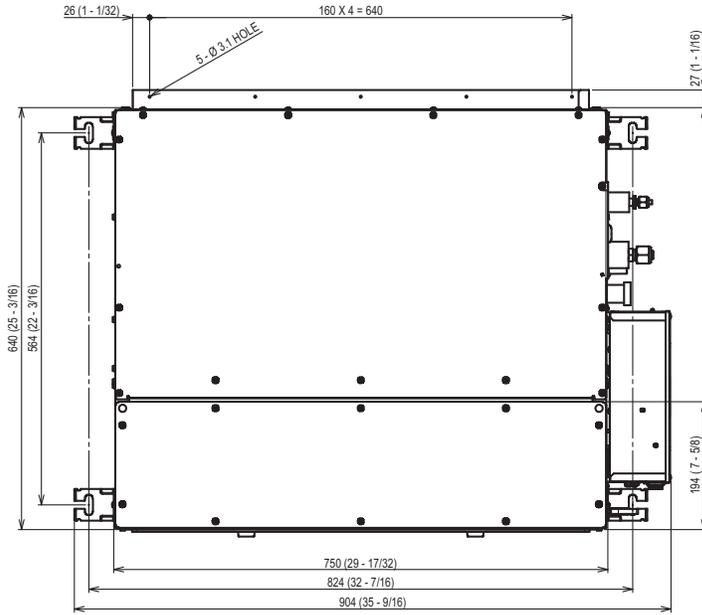
Operating Range	Indoor Air Intake Temp
Cooling (Max DB / WB)	89.6 F / 73.4 F
Cooling (Min DB / WB)	60.8 F / 51.8 F
Heating (Max DB / WB)	86.0 F / -/-
Heating (Min DB / WB)	60.8 F / -/-

Dimensions

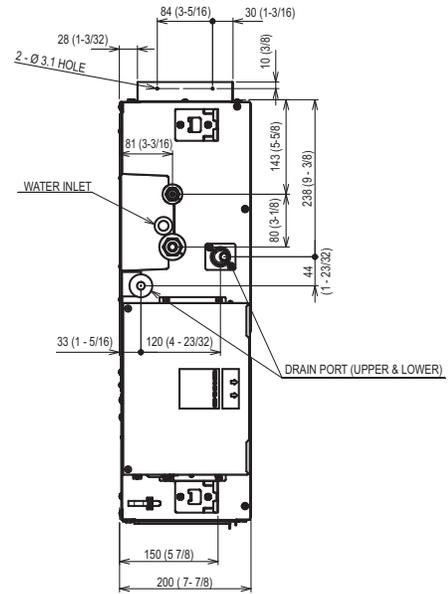
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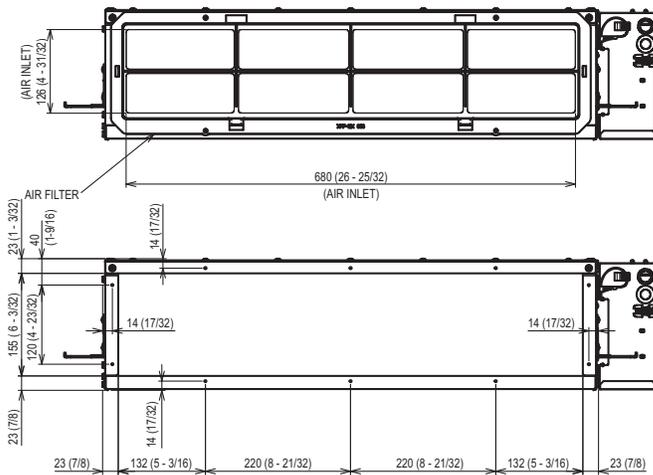
<Top View>



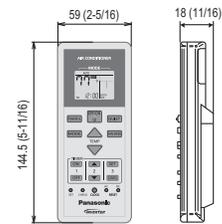
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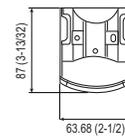
<Back View>



<Remote Control>



<Remote Control Holder>



Unit : mm/inch

Panasonic

Panasonic North America
Air Conditioning Division
1690 Roberts Blvd., NW, Suite 110
Kennesaw, GA 30144
<http://www.panasonic.com/aircon>

PAC16223SS_CS-E12SDU3AW

Split System Submittal Data

System: **26PEF2U6** Indoor: **S-26PF2U6** Outdoor: **U-26PE1U6**
 Single Split System - Concealed Duct Heat Pumps

Job Name: _____
 Location: _____
 Engineer: _____
 Submitted to: _____
 Submitted by: _____
 Reference: _____

Approval: _____
 Date: _____
 Construction: _____
 Unit#: _____
 Drawing#: _____

General Data	
Power (V/P/Hz)	230/208/1/60
Circuit Ampacity (A)	15-30 Indoor-Outdoor
Fuse Size, Max.(A)	15-30 Indoor-Outdoor
Compressor	DC Rotary Inverter
No. Used	1
R.L. Amps - L.R. (A)	12.9 - 17.5
Outdoor Unit	
Fan type	Propeller
Dia & Length (in.) - No. used	18-7/64-1
Type Drive - No. Speeds	Direct - Inverter
No. Poles (RPM)	8 - 800
No. Motors (W)	1 - 90
CFM (High)	1765
F.L. Amps (A)	13.8
Coil Type	Aluminum Fin & Copper Pipe
Fin Type - Pipe Type	Slit Plate - Inner Rifled
Rows - F.P.I.	1 - 15.9
Face Area (sq.ft.)	7.26
Tube Size (in)	3/8" / 5/8"
Indoor Unit	
Fan Type	Sirocco
Dia & Length (in.) - No. used	7-9/32 2
No. Speeds	3 & Auto
No. Poles (RPM, High)	8p 1360
No. Motors (W)	1-124 124 watt = 0.17 hp
CFM (Hi/Med/Lo)	742/671/530
Indoor Sound Rating (Hi) (dB-A)	35
F.L. Amps (A)	0.8
Coil Type	Aluminum Plate Fin & Copper Tube
Fin Type - Pipe Type	Slit Plate - Inner Rifled
Rows - F.P.I.	3-3/64" (1.34mm)
Face Area sq.ft. (M2)	2.90 (0.269)
Tube Size (in)	9/32"
Drain Connection Size	Max. head 1.64ft above drain connection



Refrigerant	R410A
Lbs. - R410a	4.2
Control	Electric Expansion Valve
Connection	Flare
Line Length, Max (ft.)	165
Line Difference, Max (ft.)	50 (outdoor lower), 100 (outdoor higher)
Line Size (in. O.D. Discharge)	3/8"
Line Size (in. O.D. Suction)	5/8"
Dimensions (HxWxD)	
Indoor Unit (Crated) (in.)	14-3/32 x 46-7/8 x 30-13/16
Indoor Unit (Uncrated) (in.)	11-7/16 x 39-3/8 x 27-19/16
Outdoor Unit (Crated) (in.)	34-31/32 x 39-31/32 x 16-3/32
Outdoor Unit (Uncrated) (in.)	30-23/32 x 37 x 13-3/8
Weight (lbs.)	
(Indoor) Net	73
(Indoor) Shipping	89
(Outdoor) Net	128
(Outdoor) Shipping	148
(Indoor) Shipping Volume (cu.ft.)	12.94
(Outdoor) Shipping Volume (cu.ft.)	13

Performance Data @ ARI Standard Conditions (230/208V)

Cooling	
Total Capacity (BTU/H)	24,000 (9,500 - 24,000)
Sensible Capacity (BTU/H)	N/A
Latent Capacity (BTU/H)	N/A
SEER	16.2
Dehumidification (Pints/H)	4.6
Amps (A)	14.2/15.6
Power Inputs (W)	2720/2720
Outdoor Sound Rating (dB-A) High	49
Heating	
Total Capacity (BTU/H)	28,600 (8,000 - 28,600)
HSPF	9.8
Amps (A)	12.5/13.8
Max Amps (A)	12.5/13.8
Power Inputs (W)	2720/2720
Back-up Strip Heater (KW)	N/A
Outdoor Sound Rating (dB-A) High	49

Features

Controls	Microprocessor
Remote Controller	(Wired Included) (Wireless Optional)
Temperature Control	IC Thermostat
Timer	72 HR, ON/OFF
Night Setback	N/A
Air Louver, Horizontal	N/A
Air Louver, Vertical	N/A
Power Failure Automatic Changeover	Built-In
Heating/Cooling Automatic Changeover	Built-In
Self-Diagnosis	Built-In
Air Filter	Field Provided

Option

Refrigerant Line Set	Available
Fresh Air Intake	N/A
Condensate Drain Pump	Built In (1.64ft)
Wireless Remote Controller	Optional
Non-Removable Remo-con Bracket	Available

Operating Range

Operating Range	Indoor Air Intake Temp	Outdoor Air Intake Temp
Cooling (Max)	95F DB/71F WB	115F DB
Cooling (Min)	67 DB/57F WB	0F DB
Heating (Max)	80F DB/67F WB	75F DB/65F WB
Heating (Min)	-DB/-WB	(-)-4F DB



Indoor Dimensions

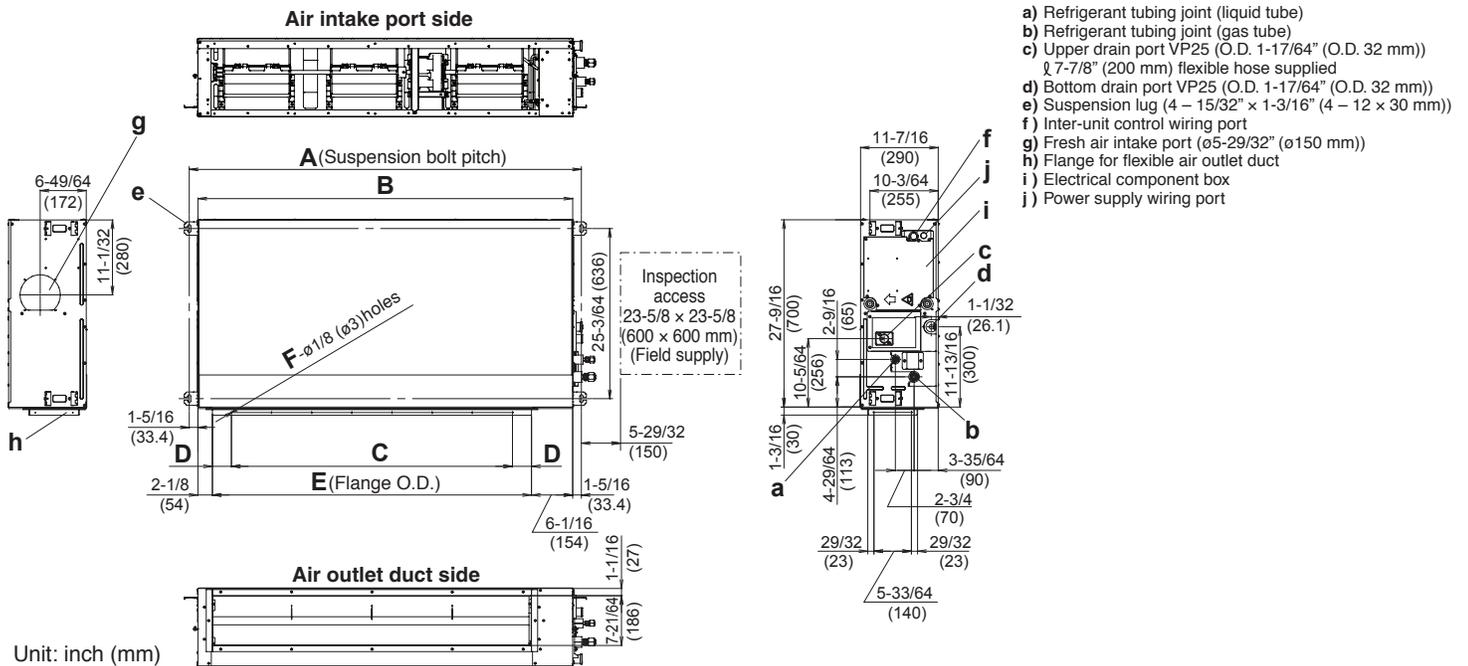
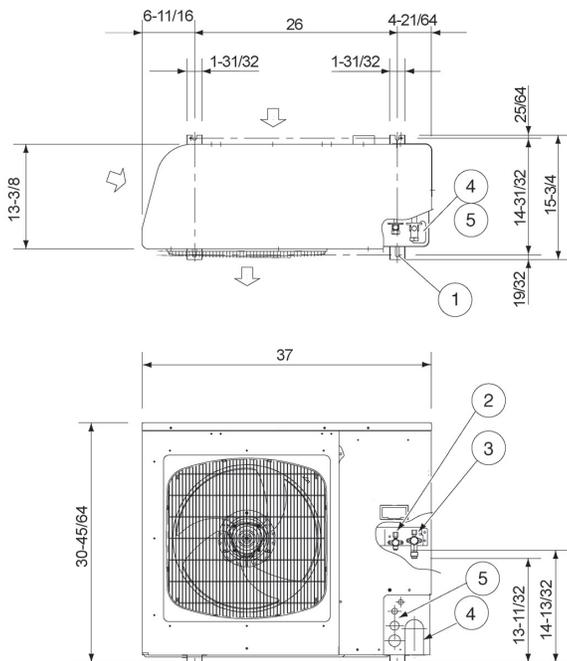


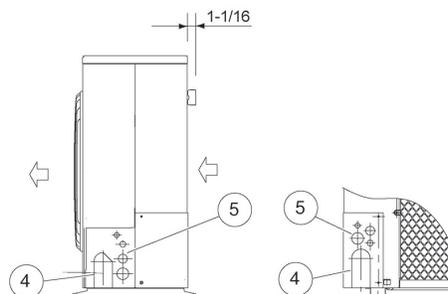
Table 3-2

Type		A	B	C	D	E	F
26	inch	42-1/64	39-3/8	29-17/32 (Pitch 5-29/32 x 5)	53/64	31-3/16	16
	mm	1,067	1,000	750 (Pitch 150 x 5)	21	792	
36	inch	57-3/4	55-1/8	41-11/32 (Pitch 5-29/32 x 7)	2-51/64	46-59/64	20
	mm	1,467	1,400	1,050 (Pitch 150 x 7)	71	1,192	

Outdoor Dimensions



①	Hole for anchor bolt (4-R6.5) / Anchor bolt: M10
②	Refrigerant tube joint (liquid line tube) • Flare connection 3/8 in (9.52 mm)
③	Refrigerant tube joint (gas line tube) • Flare connection 5/8 in (15.88 mm)
④	Refrigerant tubing inlet (knock-out hole)
⑤	Power supply inlet (knock-out hole \varnothing 38, \varnothing 29, \varnothing 19, \varnothing 16 mm)



Dimension: inch

Panasonic

Panasonic North America
 Air Conditioning Division
 1690 Roberts Blvd., NW, Suite 110
 Kennesaw, GA 30144
 us.panasonic.com/aircon

Split System Submittal Data

System: **36PEF2U6** Indoor: **S-36PF2U6** Outdoor: **U-36PE1U6**
 Single Split System - Concealed Duct Heat Pumps

Job Name: _____
 Location: _____
 Engineer: _____
 Submitted to: _____
 Submitted by: _____
 Reference: _____

Approval: _____
 Date: _____
 Construction: _____
 Unit#: _____
 Drawing#: _____

General Data	
Power (V/P/Hz)	230/208/1/60
Circuit Ampacity (A)	15-35 Indoor-Outdoor
Fuse Size, Max.(A)	15-35 Indoor-Outdoor
Compressor	DC Rotary Inverter
No. Used	1
R.L. Amps - L.R. (A)	16.4 - 17.5
Outdoor Unit	
Fan type	Propeller
Dia & Length (in.) - No. used	18-7/64-1
Type Drive - No. Speeds	DC Motor
No. Poles (RPM)	8 - 830
No. Motors (W)	1 - 90
CFM (High)	1942
F.L. Amps (A)	17.3
Coil Type	Aluminum Fin & Copper Pipe
Fin Type - Pipe Type	Slit Plate - Inner Rifled
Rows - F.P.I.	2-14.1
Face Area (sq.ft.)	7.26
Tube Size (in)	3/8"
Indoor Unit	
Fan type	Sirocco
Dia & Length (in.) - No. used	7-9/32-3
No. Speeds	3 & Auto
No. Poles (RPM, High)	8-1360
No. Motors (W)	1-235w 235 watt = 0.32 hp
CFM (Hi/Med/Lo)	1201/989/812
Indoor Sound Rating (Hi) (dB-A)	39
F.L. Amps (A)	1.88
Coil Type	Aluminum Plate Fin & Copper Tube
Fin Type - Pipe Type	Slit Plate - Inner Rifled
Rows - F.P.I.	3-3/64
Face Area (sq.ft.)	4.34
Tube Size (in)	3/8"
Drain Connection Size (in.)	(1-17/64)"



Refrigerant	R410A
Lbs. - R410a	6.2
Control	Electric Expansion Valve
Connection	Flare
Line Length, Max (ft.)	165
Line Difference, Max (ft.)	50 (outdoor lower), 100 (outdoor higher)
Line Size (in. O.D. Discharge)	3/8"
Line Size (in. O.D. Suction)	5/8"
Dimensions (HxWxD)	
Indoor Unit (Crated) (in.)	13-31/32 x 63-9/16 x 33-15/32
Indoor Unit (Uncrated) (in.)	11-7/16 x 55-1/8 x 27-9/16
Outdoor Unit (Crated) (in.)	34-31/32 x 39-31/32 x 16-3/32
Outdoor Unit (Uncrated) (in.)	30-23/32 x 37 x 13-3/8
Weight (lbs.)	
(Indoor) Net	97
(Indoor) Shipping	115
(Outdoor) Net	143
(Outdoor) Shipping	161
(Indoor) Shipping Volume (cu.ft.)	17.2
(Outdoor) Shipping Volume (cu.ft.)	13

Performance Data @ ARI Standard Conditions (230/208V)

Cooling	
Total Capacity (BTU/H)	31,200 (9,500 - 31,200)
Sensible Capacity (BTU/H)	19,570
Latent Capacity (BTU/H)	11,630
SEER	15.5
Dehumidification (Pints/H)	2.9
Amps (A)	18.6/20.6
Power Inputs (W)	3,920/3,920
Outdoor Sound Rating (dB-A) High	52
Heating	
Total Capacity (BTU/H)	37,400 (8,000-37,400)
HSPF	9.6
Amps (A)	15.6/17.3
Max Amps (A)	15.6/17.3
Power Inputs (W)	3,250/3,250
Back-up Strip Heater (KW)	N/A
Outdoor Sound Rating (dB-A) High	52

Features

Controls	Microprocessor
Remote Controller	(Wired Remote Included) (Wireless Remote Optional)
Temperature Control	IC Thermostat
Timer	72 Hour On/Off
Night Setback	N/A
Air Louver, Horizontal	N/A
Air Louver, Vertical	N/A
Power Failure Automatic Changeover	Built-In
Heating/Cooling Automatic Changeover	Built-In
Self-Diagnosis	Built-In
Air Filter	Field Supplied

Option

Refrigerant Line Set	Available
Fresh Air Intake	N/A
Air duct Extension	N/A
Indoor Frame Extension	N/A
Condensate Drain Pump	Built in (1.64 ft)
Non-Removable Remo-con Bracket	Available

Operating Range

	Indoor Air Intake Temp	Outdoor Air Intake Temp
Cooling (Max)	95F DB/71F WB	115F DB
Cooling (Min)	67 DB/57F WB	0F DB
Heating (Max)	80F DB/67F WB	75F DB/65F WB
Heating (Min)	-DB/-WB	5F DB



Indoor Dimensions

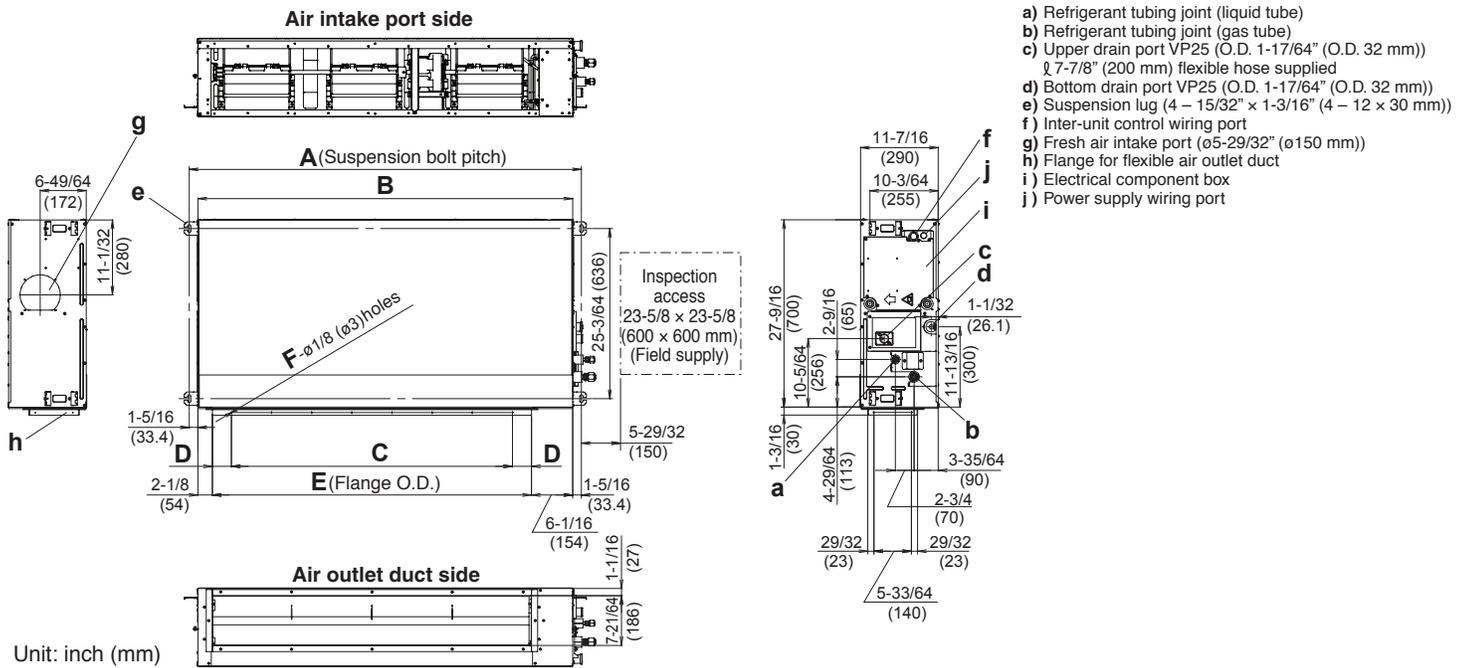
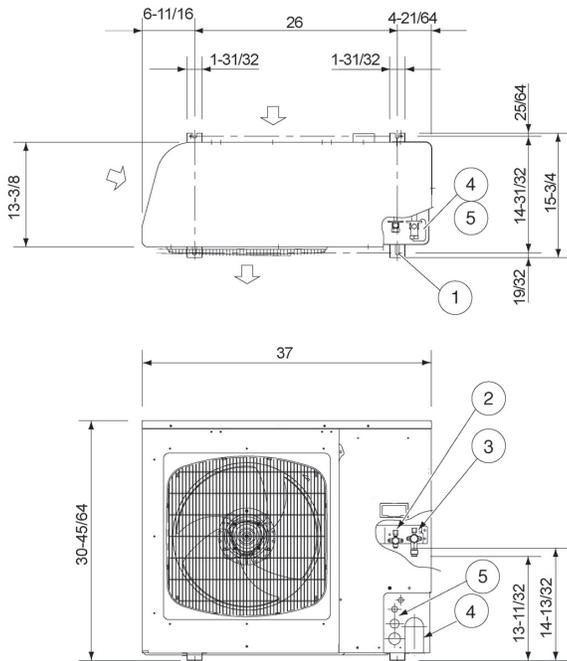


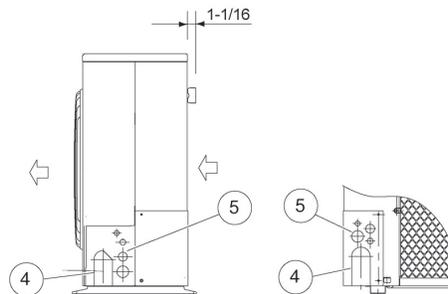
Table 3-2

Type		A	B	C	D	E	F
26	inch	42-1/64	39-3/8	29-17/32 (Pitch 5-29/32 x 5)	53/64	31-3/16	16
	mm	1,067	1,000	750 (Pitch 150 x 5)	21	792	
36	inch	57-3/4	55-1/8	41-11/32 (Pitch 5-29/32 x 7)	2-51/64	46-59/64	20
	mm	1,467	1,400	1,050 (Pitch 150 x 7)	71	1,192	

Outdoor Dimensions



①	Hole for anchor bolt (4-R6.5) / Anchor bolt: M10
②	Refrigerant tube joint (liquid line tube) • Flare connection 3/8 in (9.52 mm)
③	Refrigerant tube joint (gas line tube) • Flare connection 5/8 in (15.88 mm)
④	Refrigerant tubing inlet (knock-out hole)
⑤	Power supply inlet (knock-out hole \varnothing 38, \varnothing 29, \varnothing 19, \varnothing 16 mm)



Dimension: inch

Panasonic

Panasonic North America
 Air Conditioning Division
 1690 Roberts Blvd., NW, Suite 110
 Kennesaw, GA 30144
 us.panasonic.com/aircon



ARMOR™ CONDENSING WATER HEATER PACKAGE SYSTEM

Job Name: _____ Model No. _____ Type Gas _____
 Location: _____ Recovery Rate in GPH _____ @ _____ °F Rise
 Engineer: _____ Configuration _____ Tank Cap. _____
 Agent/Wholesaler: _____ Equipment Tag(s): _____
 Contractor: _____

NOTES:

Standard Features

- › **AHRI Certified 96% Thermal Efficiency**
- › **Modulating Burner with 5:1 Turndown**
 - › Direct-Spark Ignition
 - › Low NOx Operation
 - › Sealed Combustion
 - › Low Gas Pressure Operation
- › **Vertical & Horizontal Direct-Vent**
 - › PVC, CPVC, Polypropylene or SS Venting up to 100 Feet
 - › PVC/CPVC Sidewall Vent Termination
- › **Stainless Steel Heat Exchanger**
 - › All Welded Construction, Gasketless Design
 - › 160 psi Working Pressure
 - › ASME Construction (AW 286-801)
- › Natural to L.P. Conversion Kit
- › Stainless Steel Circulating Pump
- › On/Off Switch
- › Flow Switch
- › ASME Temperature & Pressure Relief Valve (286-801)
- › Downstream Test Valves (AW 501-801)
- › Adjustable Leveling Legs
- › Tank Sensor
- › Adjustable High Limit w/ Manual Reset
- › Automatic Reset High Limit
- › Condensate Trap
- › Zero Clearances to Combustible Material
- › California Code Compliant
- › 5 Year Limited Warranty (See Warranty for Details)
- › 1 Year Parts Warranty (See Warranty for Details)



Smart System Features

- › **SMART SYSTEM Digital Operating Control**
 - › Multi Color Graphic LCD Display
- › **Built in Cascading Sequencer for up to 8 Water Heaters**
 - › Lead Lag
 - › Efficiency Optimization
 - › Front-End Loading Capability with CopperFin II
- › **Building Management System Integration**
 - › Modbus Communication (Optional)
 - › 0-10 VDC Input to Control Modulation or Set point
 - › 0-10 VDC Modulation Rate Output
 - › 0-10 VDC Input to Enable/Disable call for heat
- › Access to BMS Settings Through Graphic LCD Display
- › Low Water Flow Safety Control & Indication
- › Inlet & Outlet Temperature Sensors & Readout
- › Flue Temperature Sensor
- › Water Heater Pump Control
- › Pump Delay with Freeze Protection
- › Pump Exercise
- › Night Setback
- › Building Recirculation loop Pump Control*
 - › Night Setback of Building Recirculation Loop*
- › Time Clock
- › **Maintenance Reminder**
 - › Ability to enter service contact info into product
- › **High Voltage Terminal Strip**
 - › 120 VAC / 60 Hertz / 1 Phase Power Supply
 - › Pump Control Contacts
 - › Water Heater Pump Control Contacts
 - › Building Recirculation Pump Control Contacts
- › **Low Voltage Terminal Strip**
 - › 24 VAC Auxiliary Device Relay
 - › Auxiliary Proving Switch Contacts
 - › Flow Switch Contacts
 - › Alarm on Any Failure Contacts
 - › Runtime Contacts
 - › Tank Sensor Contacts
 - › Cascade Contacts
 - › 0-10 VDC BMS External Control Contact
 - › 0-10 VDC Boiler Rate Output Contacts

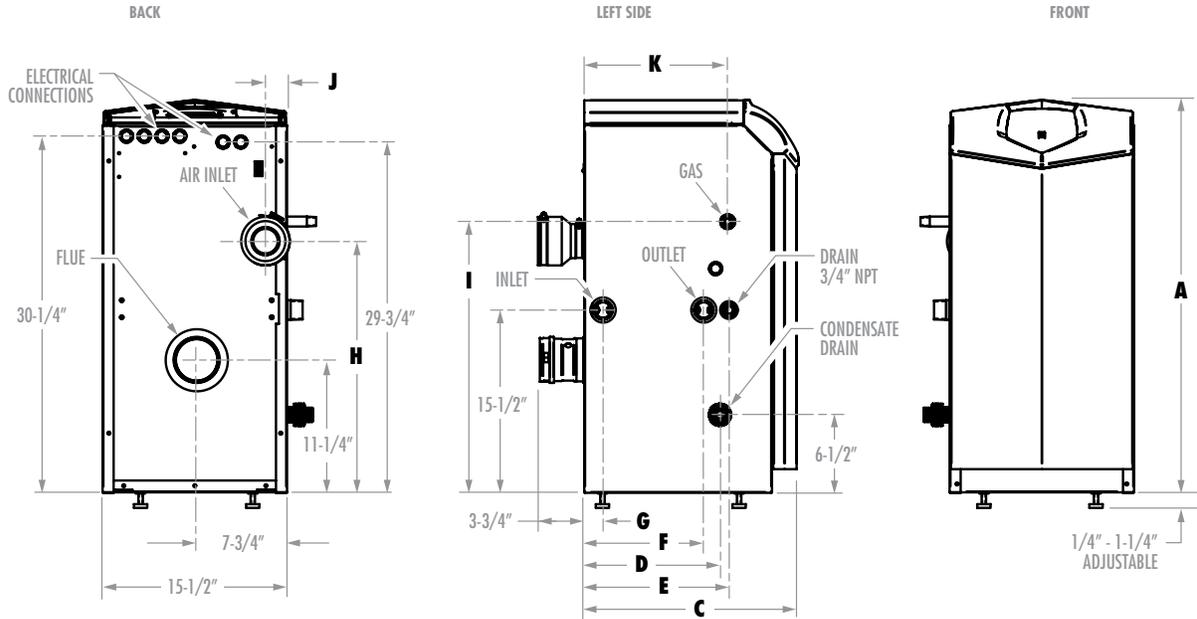
Optional Equipment

- CON-X-US® Remote Connectivity
- Alarm Bell
- Condensate Neutralization Kit
- High & Low Gas Pressure Switches (AW 501-801)
- Concentric Vent Kit (3" & 4" PVC/CPVC only)
- BMS Gateway for LonWorks or BACnet
- ModBus Communications
- SMART SYSTEM PC Software
- Room Air Vent Kits
- Stack Frame

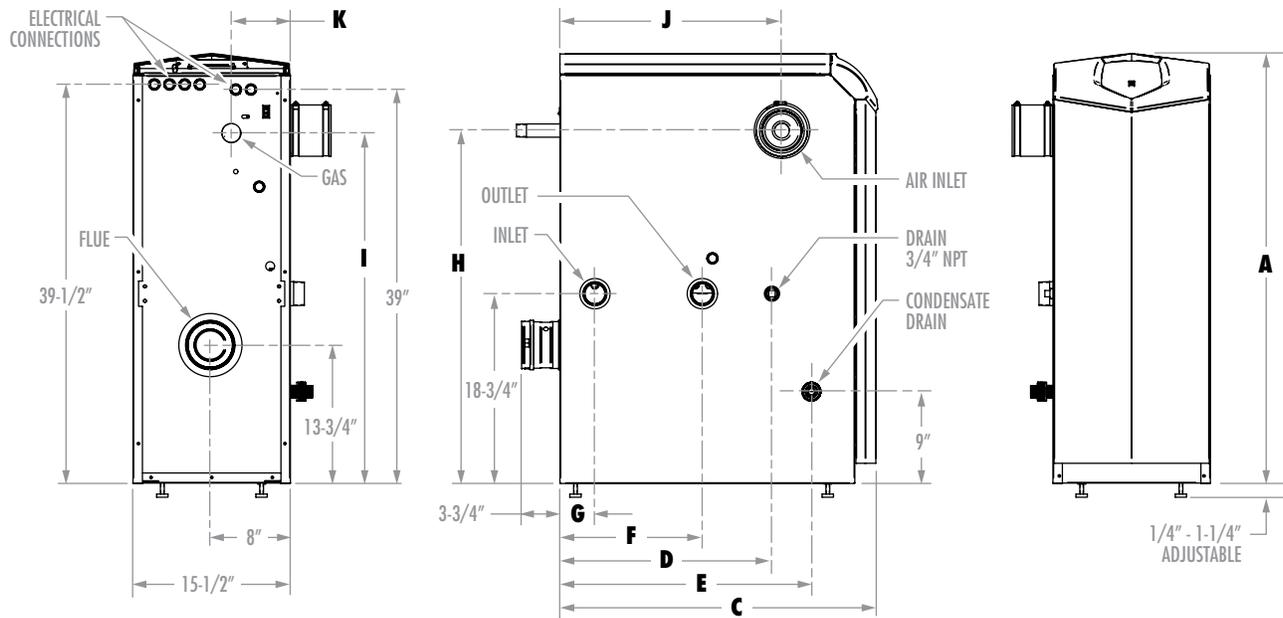
*Exclusive to Lochinvar

Armor™ Condensing Water Heater DIMENSIONS & SPECIFICATIONS

Models: AW 151-200



Models: AW 286-801



Model Number	Btu/hr Input	GPH @ 100° Rise	A	C	D	E	F	G	H	I	J	K	Gas Conn.	Water Conn.	Air Inlet	Vent Size	Ship Wt. (lbs.)
AWN151PM	150,000	175	33-1/4"	18"	12-1/4"	11-1/2"	10"	1-1/2"	21-1/4"	23"	1-3/4"	12"	1/2"	1-1/4"	3"	3"	165
AWN200PM	199,999	233	33-1/4"	22-1/4"	16-1/2"	15-3/4"	14-1/4"	5-1/4"	21-1/4"	23"	1-3/4"	16-1/4"	1/2"	1-1/4"	3"	3"	181
AWN286PM	285,000	332	42-1/2"	19-3/4"	12-3/4"	13-1/2"	6"	2"	34"	31"	11-3/4"	4-1/4"	3/4"	2"	4"	4"	236
AWN400PM	399,999	466	42-1/2"	27"	21"	20-3/4"	14"	3-1/2"	34"	34"	18-3/4"	2"	1"	2"	4"	4"	306
AWN501PM	500,000	582	42-1/2"	31-1/2"	21"	25"	14"	3-1/2"	35"	35"	22"	5-3/4"	1"	2"	4"	4"	339
AWN601PM	600,000	699	42-1/2"	36-1/4"	21"	25"	14"	3-1/2"	36"	32-3/4"	19-1/2"	5-1/2"	1"	2"	4"	4"	380
AWN701PM	700,000	815	42-1/2"	40-1/4"	23"	29"	17"	3-1/2"	36"	32-3/4"	23-1/2"	3-1/4"	1"	2"	4"	6"	461
AWN801PM	800,000	931	42-1/2"	45-1/4"	23"	33-1/4"	17"	3-1/2"	36"	32-3/4"	27-3/4"	3-1/4"	1"	2"	4"	6"	527

All information subject to change. Change "N" to "L" for LP gas models.



Lochinvar, LLC
 300 Maddox Simpson Parkway
 Lebanon, Tennessee 37090
 P: 615.889.8900 / F: 615.547.1000
 Lochinvar.com



Armor™ Package Systems DIMENSIONS & SPECIFICATIONS

All configurations are shown with an AW 151-801 and a 119-504 gallon capacity jacketed and insulated Lock-Temp tank.

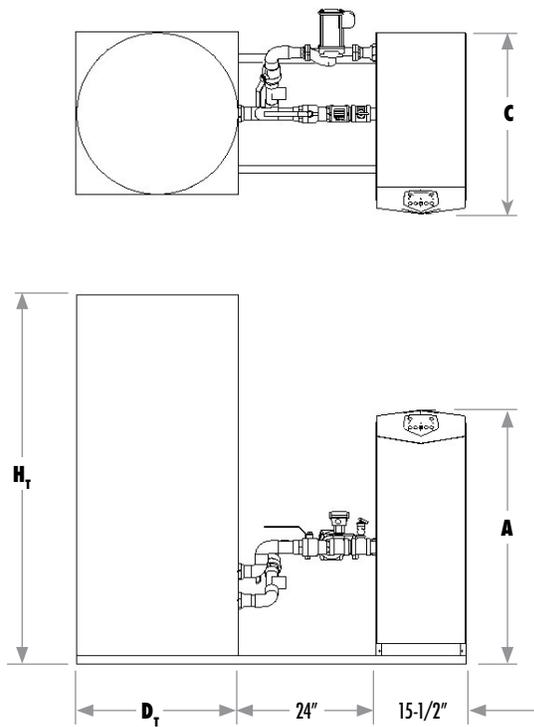
All package systems are skid mounted. Add 3" to tank H_t for channel iron skid.

JACKETED TANK DIMENSIONS			
Gallon	H _t	D _t	Weight (lbs.)
119	62-1/2"	28"	345
200	77-1/4"	32"	600
257	91"	34"	1108
318	80"	40"	1290
432	80"	46"	1,512
504	92"	46"	1,623

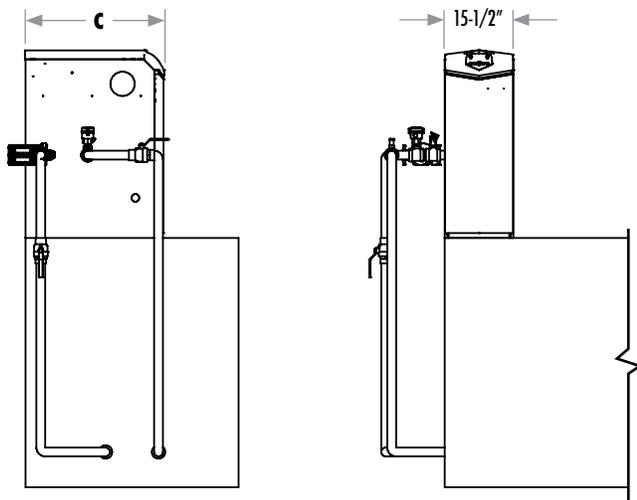
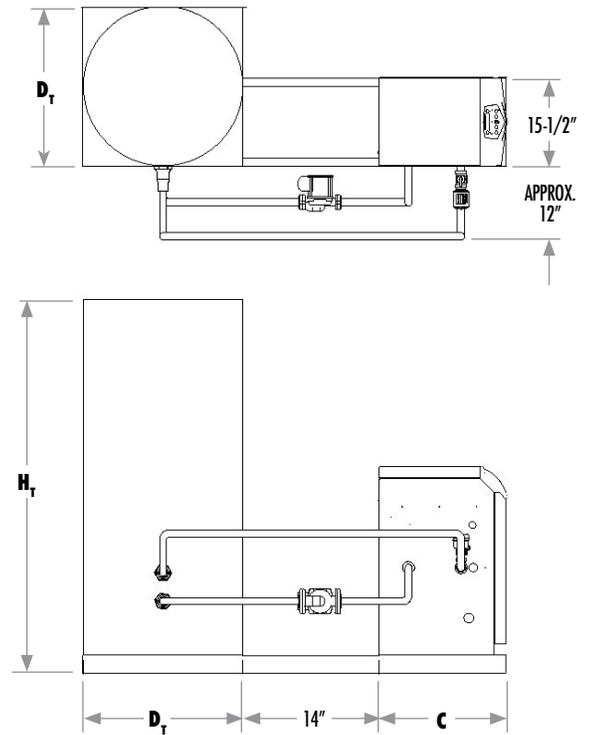
NOTES:

- Tanks over 500 gallon are available for package systems.
- Package systems with multiple units or storage tanks 752 gallons and larger will be designed as a "Breakaway" system.
- Vertical tanks over 650 gallons require breakaway frames for shipping purposes.
- Breakaway systems and frames are factory disassembled for shipping purposes and require some field reassembly.
- Consult factory for additional information and if equipment room dimensions are critical.

PS Configuration

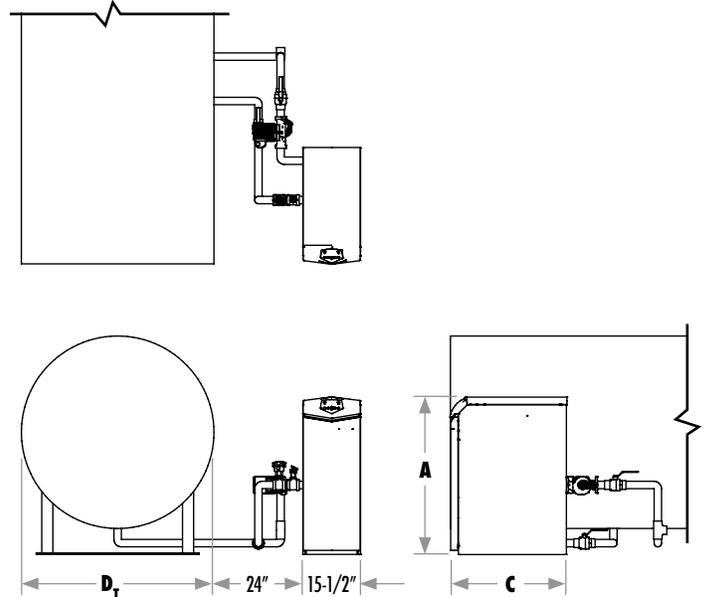


PU Configuration



Consult factory for overall dimensions

PT Configuration



PW Configuration

Specification Submittal Data / Panasonic Ventilation Fan

Description

Customizable Ventilation Fan/Light shall be low voltage ceiling mount rated for continuous run. Fan shall be ENERGY STAR® rated and certified by the Home Ventilating Institute (HVI). Fan shall include energy efficient LED lighting. Evaluated by Underwriters Laboratories and conform to both UL and cUL safety standards.

Motor/Blower:

- Enclosed DC brushless motor technology rated for continuous run.
- Fan ventilation rates shall be manually adjustable for 50-80-110 CFM.
- Power rating shall be 120 volts and 60 Hz.
- Fan shall be UL listed for tub/shower enclosure when used with a GFCI protected circuit and used in insulated ceiling (TYPE I.C.).
- Fan equipped with thermal cutoff fuse.
- Removable, permanently lubricated, plug-in motor.

Housing:

- Rust proof epoxy and polyester resin coating, 26 gauge galvanized steel body.
- Integrated dual 4" or 6" diameter duct adapter.
- Built-in metal flange provides blocking for penetrations through drywall as an Air Barrier, and assists with the decrease in leakage in the Building Envelope during blower door testing.
- Built in backdraft damper.
- Articulating and expandable installation bracket up to 24".

Grille:

- Attractive design using Poly Pro material.
- Attaches directly to housing with torsion springs.
- Includes a motion sensor cap for use as a cover when the motion sensor Plug 'n Play™ module has not been selected.

Light:

- Two replaceable, ENERGY STAR® rated, 7W GU24 base LED lamps



* (2) 7W GU24 base LED lamps included.

Warranty:

- ALL Parts: 3 Years from original purchase date.
- DC Motor: 6 Years from original purchase date.
- LED: 5 years from original purchase date.

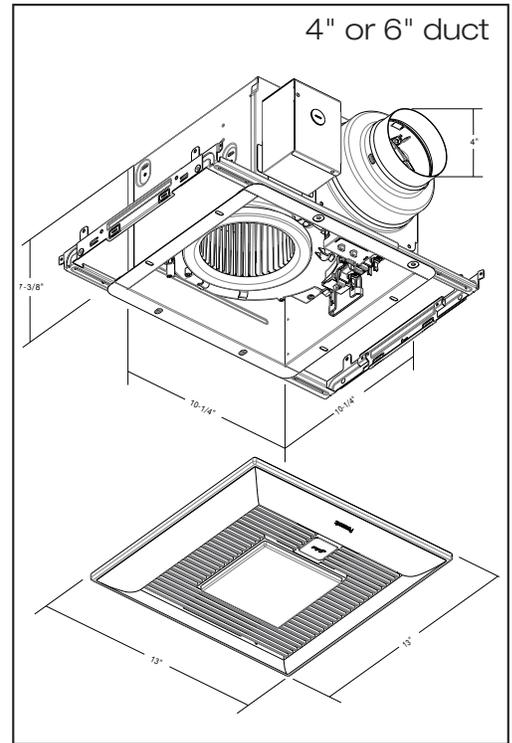
Architectural Specifications:

Customizable Ventilation Fan/Light shall be ceiling mount, ENERGY STAR® rated type with **multi-speed control** (0, 30-100 CFM, in 10 CFM increments) that shall be **built-in** with a high/low adjustable delay timer and activated by a wall switch, Motion Sensor Plug 'N Play™ module or Condensation Sensor Plug 'N Play™ module. Features a built-in speed selector. Select from 50/80/110 CFM and no more than <0.3/<0.3/0.4 sones as certified by the Home Ventilating Institute (HVI) at 0.1 w.g. with no less than 53/86/114 CFM and no more than <0.3/0.6/0.9 sones at .25 w.g. Power Consumption shall be no greater than 3.2/5.8/11.1 watts at 0.1 w.g. and 6.6/11.1/17.6 watts at 0.25 w.g. ENERGY STAR® rated with efficiency of no less than 12.8/13.3/9.9 CFM/watt at 0.1 w.g. and than 7.7/7.7/6.3 CFM/watt at 0.25 w.g. The motor shall be enclosed with brushless DC motor engineered to run continuously. DC motor speed shall automatically increase when the fan senses static pressure to maintain selected CFM. Power rating shall be 120v/60Hz. Duct diameter shall be no less than 4", inclusive of an integrated dual 4" or 6" duct adapter. **Plug 'N Play™ modules** provide up to **two** additional features. Select from Condensation Sensor, LED Night Light and Motion Sensor. Fan shall be UL and cUL listed for tub/shower enclosure when used with a GFCI protected circuit. Fan can be used to comply with ASHRAE 62.2, LEED, ENERGY STAR®, IAP, EarthCraft, California Title-24 and WA Ventilation Code. Lamps shall be of the LED type with the fan utilizing no less than two 7 Watt, ESTAR rated, GU24 base LED lamps.

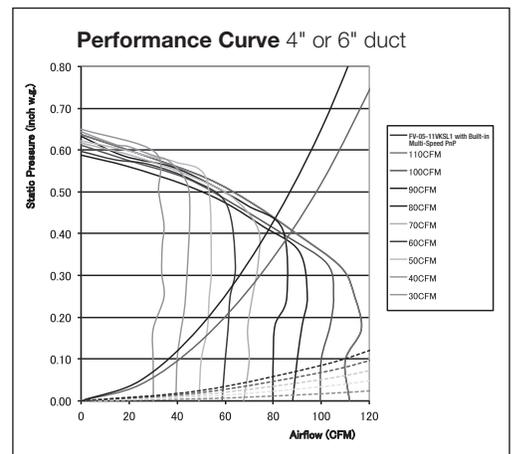
DC Motor Technology:



When fan senses static pressure, its speed is automatically increased to ensure that the desired CFM is not compromised, which allows the fan to perform as rated.



FV-05-11VKSL1



For complete Installation Instructions visit us.panasonic.com/ventfans

Model	Quantity	Comments	Project:
			Location:
			Architect:
			Engineer:
			Contractor:
			Submitted by:
			Date:

Plug 'N Play™ Modules

Plug 'N Play™ modules provide up to **two** features (multi-speed is already built-in to FV-05-11VKSL1). Select from Motion Sensor, Condensation Sensor and LED Night Light.



FV-VS15VK1: Multi-Speed with Time Delay - N/A for this Fan, already built-in.

Allows you to select the proper CFM settings to satisfy ASHRAE 62.2 continuous ventilation requirements. The fan runs continuously at a pre-set lower level (0, 30-100 CFM, in 10 CFM increments), then elevates to a maximum level of operation (50-80-110 CFM) when the wall switch is turned on, or when the motion sensor or Condensation Sensor module is activated. A High/Low delay timer returns the fan to the pre-set CFM level after a period of time set by the user.



FV-MSVK1: Motion Sensor

Automatically activates when someone enters the room. Once the settings have been applied, the fan becomes truly automatic. This module also activates a 20 minute delay off timer for the fan.



FV-CSVK1: Condensation Sensor

Helps control bathroom condensation to prevent mold and mildew. Sensor technology detects relative humidity and temperature to anticipate dew point, automatically turning the fan on to control humidity. Built-in Relative Humidity (RH) sensitivity adjustment enables fine tuning for moist conditions and for satisfying CalGreen requirements. When the condensation sensor is used in conjunction with multi-speed functionality, the fan will kick up to high speed when the condensation sensor detects moisture in the room. This module also activates a 20 minute delay off timer for the fan.



FV-NLVK1: LED Night Light

A photocell automatically turns on the 1 watt LED night light when darkness is sensed in the room. High/Low brightness switch enables you to fine tune the photocell to work in conjunction with the darkness level of your bathroom. This module also activates an automatic 20 minute delay off timer for the fan.

Fan Specifications	WhisperGreen Select™: FV-05-11VKSL1																	
Static Pressure in inches w.g.	0.1	0.25	0.1	0.25	0.1	0.25	0.1	0.25	0.1	0.25	0.1	0.25	0.1	0.25	0.1	0.25	0.1	0.25
Air Volume (CFM)	110	114	100	105	90	94	80	86	70	71	60	62	50	53	40	43	30	35
Noise (sones)	0.4	0.9	<0.3	0.8	<0.3	0.6	<0.3	0.5	<0.3	0.4	<0.3	0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Power Consumption (watts)	11.1	17.6	8.7	15.0	7.0	12.8	5.8	11.1	4.7	8.9	3.9	7.6	3.2	6.6	2.8	5.7	2.5	5.0
Energy Efficiency (CFM/Watt)	9.9	6.3	11.6	7.1	13.1	7.5	13.3	7.7	15.3	8.2	15.9	8.4	12.8	7.7	14.6	7.7	12.8	7.4
Speed (RPM)	960	1237	926	1213	872	1184	837	1157	796	1119	769	1102	740	1081	739	1077	731	1058
Current (amps)	0.12	0.17	0.09	0.15	0.08	0.13	0.07	0.12	0.05	0.09	0.05	0.08	0.04	0.07	0.04	0.06	0.03	0.06
MAX. Current (amps)	0.42																	
Power Rating (V/Hz)	120/60																	
ENERGY STAR rated	Yes																	

0.25=Installed Performance

Panasonic Eco Solutions Company of North America
Eco Products Division
Two Riverfront Plaza
Newark, NJ 07102

us.panasonic.com/ventfans

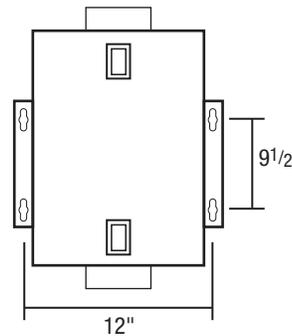
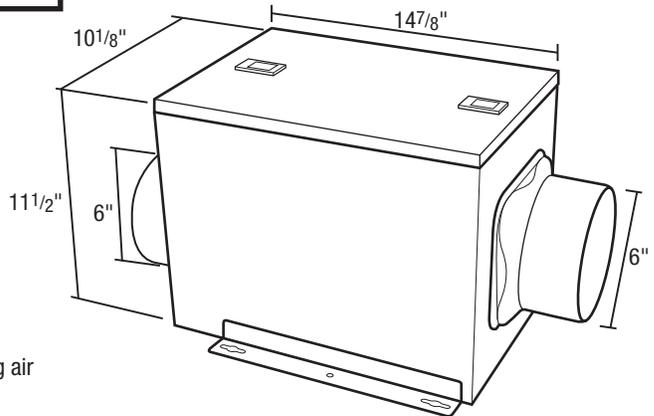




SPECIFICATIONS
QFAMD
FRESH AIR SUPPLY FAN

	130 CFM @ 0.20" SP., 26.0 Watts
	80 CFM @ 0.20" SP., 12.8 Watts
	30 CFM @ 0.20" SP., 7.8 Watts

- Blower Wheel**
 Balanced polymeric dual inlet blower wheel secured in place using a hex nut.
- Adjustable Capacity Motor**
 Variable capacity settings allow the fan to be set from 30 to 130 CFM
 4 pole ECM motor, permanently lubricated, thermally protected
 115/120V 60 Hz., 0.30 amps.
Fan Efficacy: 5.4 CFM/Watt at 130 CFM, 0.2" SP.
Static Pressure Range: Up to 0.4" SP.
- Controller**
 Unit mounted controller monitors temperature and humidity of incoming air and allows installer to configure optimal ventilation.
- Fan Housing**
 Insulated 26 gauge baked epoxy housing. Overall dimensions:
 14⁷/₈"H x 11¹/₂"D x 10¹/₈"W.
- Duct Collars**
 6" round, zinc plated metal collar adapters.
- Electrical Connections**
 0.5" electrical access. Easy wiring access via external wiring compartment cover or internal access plate.
- Unit Mounting**
 Designed to surface mount to a wall or ceiling with the included mounting brackets. Can be mounted onto joists, studs or the housing mounting brackets can be adapted for overhead mounting (hardware not provided).
- Optional Air Filter**
 An optional 10" x 10" x 2" air filter can be added to the unit (not included).
- Test Port**
 Allows easy air flow measurement with Pitot tube or similar device.
- Single Pack Shipping Info**
 Box Dim: 23" x 15⁷/₈" x 12³/₄"
 Shipping Weight: 18.0 lbs.



PROJECT							ARCHITECT			
LOCATION							ENGINEER			
CONTRACTOR							SUBMITTED BY		DATE	
FAN NUMBER	MODEL NUMBER	CFM	IN W.G.	RPM	WATTS	AMPS	SONES	QTY	OPTIONAL EQUIPMENT & REMARKS	



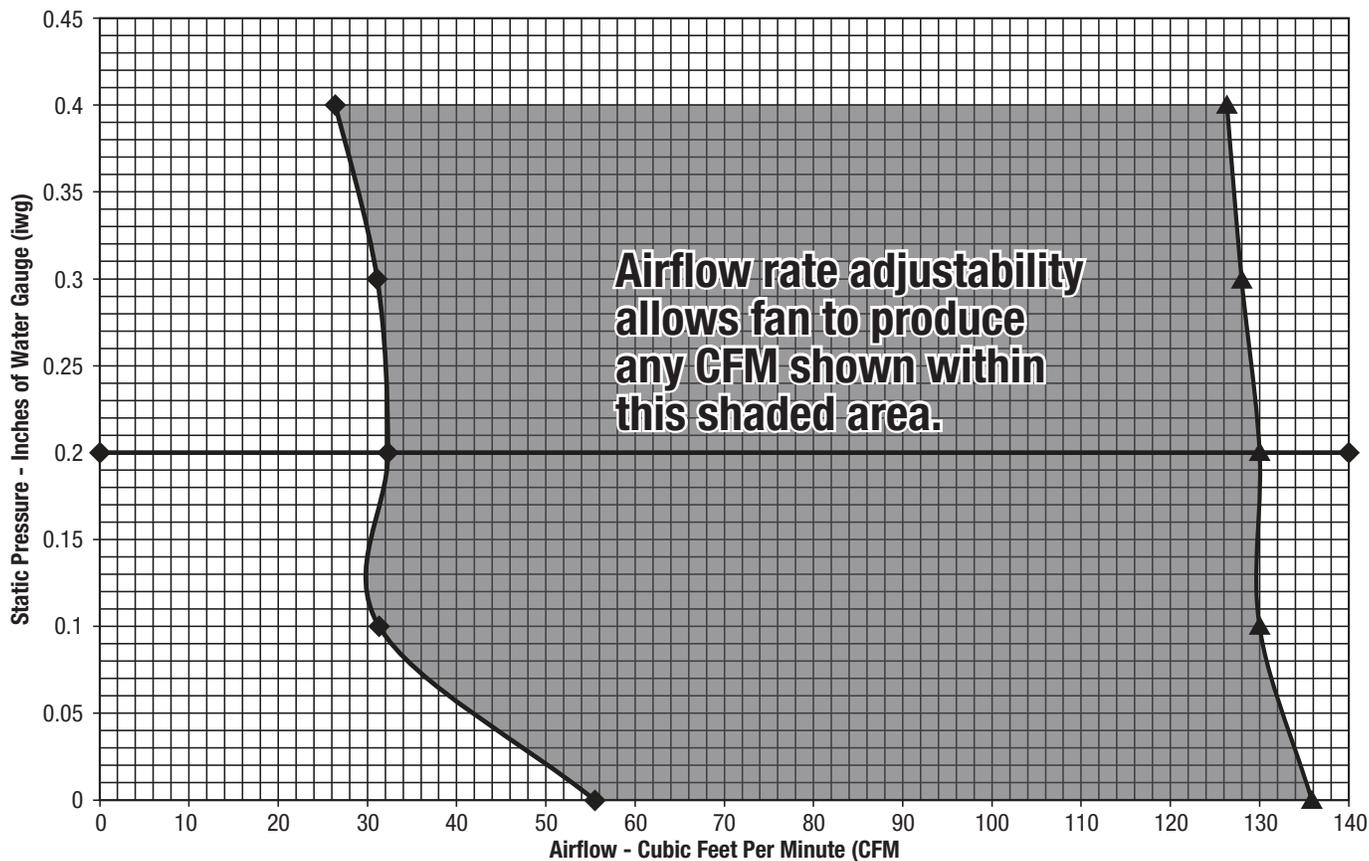
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SPECIFICATIONS
QFAMD
FRESH AIR SUPPLY FAN

Model QFAMD Fan Curve



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