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Technical Evaluation Report

DIVISION: 23 08 00 – COMMISSIONING OF HVAC

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(Subject to Renew January 1, 2026 or next code cycle)

EVALUATION SUBJECT: AMANA SPLIT UNITS

TER-23-69181

REPORT HOLDER:
DAIKIN COMFORT TECHNOLOGIES MANUFACTURING, L.P.
19001 KERMIER ROAD
WALLER, TX 77484, USA
877-254-4729 | AMANA-HAC.COM

SCOPE OF EVALUATION (compliance with the following codes):

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UNDER NO CIRCUMSTANCE DOES THIS PERFORMANCE EVALUATION GUARANTEE, IMPLY, OR STATE PERFORMANCE OF THE UNIT IS MAINTAINED DURING OR AFTER A DESIGN EVENT.

This Product Evaluation Report is being issued in accordance with the requirements of the **Florida Building Code Seventh Edition (2020) & Eighth Edition (2023)** per ASCE 7, FBC Building Ch. 16, FBC Building Sections 104.11 & 1522.2, FBC Existing Building Sections 707.1 & 707.2, FBC Mechanical 301.15, FBC Residential M1202.1 & M1301.1, FS 471.025, and Broward County Administrative Provisions 107.3.4. This report is also in accordance with the **International Building & Residential Codes (2012, 2015, 2018, & 2021).** The product noted in this report has been tested and/or evaluated as summarized herein.

IN ACCORDANCE WITH THESE CODES EACH OF THESE REPORTS MUST BEAR THE ORIGINAL SIGNATURE & RAISED SEAL OR DIGITAL SEAL OF THE EVALUATING ENGINEER.

SUBSTANTIATING DATA:
• Product Evaluation Documents
Substantiating documentation has been submitted to provide this TER and is summarized in the sections below.
• Structural Engineering Calculations
Structural engineering calculations have been prepared which evaluate the product based on comparative and/or rational analysis to qualify the following design criteria:

- Max. allowable lateral & uplift wind pressures certified herein
- Max. allowable sliding forces, uplift forces, & overturning moments (see Unit Reactions from Wind Guide on last page)
- Tie-down configuration and anchor capacity for concrete, aluminum, and steel host substrates (host by others).
- Unit panel wind pressure connection integrity

Calculation summary is included in this TER and appears herein.

LIMITATIONS & CONDITIONS OF USE:
Use of the product(s) listed herein shall be in strict accordance with this TER as noted herein and manufacturer-provided model specifications. Installation shall conform to the minimum standards stated in the referenced building code(s) in addition to the specifications and limitations stated herein. See herein for complete limitations & conditions of use.

OPTIONS:
This evaluation is valid for the models described herein. The critical unit designs have been determined and used in this evaluation. Any structural changes outside of the design as described herein would void this certification.

UNIT CASING MATERIALS:
26ga galvanized sheet steel ASTM A653 CS cold rolled steels for side covers. 22ga galvanized sheet steel ASTM A653 cold rolled steel for bottom base pan. 20ga galvanized sheet steel ASTM A653 cold rolled steel for top panel. Removable top & side covers secured with #10-12 sheet metal screws. Knockouts provided for utility & control connections. Contact Report Holder for further unit construction information.

NOTE: THE GRAPHICAL DEPICTIONS IN THIS REPORT ARE FOR ILLUSTRATIVE PURPOSES ONLY AND MAY DIFFER IN APPEARANCE.

STRUCTURAL PERFORMANCE:
Models referenced herein are subject to the following design limitations:

Maximum-Rated ASD Wind Pressures*:
± 119 psf Lateral, 94 psf Uplift

- Required design wind pressures shall be determined according to the guide provided in the Appendix (see last page of this report) or on a site-specific basis in accordance with ASCE 7 and applicable sections of the building code(s) being referenced in accordance with ASD methodology.
- Required design wind pressures shall be less than or equal to the maximum pressures listed herein.
- *Maximum-Rated ASD Wind Pressures indicate the maximum pressures that all units listed herein are approved for. Valid for at-grade and rooftop applications. See limitations herein.
- Valid for use inside and outside the High-Velocity Hurricane Zone (HVHZ).
- Site-specific wind analysis may produce alternate limitations provided that the maximum-rated wind pressures stated herein are not exceeded.

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MODEL INFORMATION (CONTINUED ON NEXT PAGES)

Model Number	Cabinet Group	Unit Dimensions (in)		
		Width	Depth	Height
A(S,N)X130181	A1	23	23	25 3/4
A(S,N)X130241	B1	26	26	27 1/2
A(S,N)X130301	B1	26	26	27 1/2
A(S,N)X130361	B1	26	26	27 1/2
A(S,N)X130421	C3	29	29	36 1/4
A(S,N)X130481	C3	29	29	36 1/4
A(S,N)X130601	C6	29	29	40
A(S,N)X130611	D5	35 1/2	35 1/2	38 1/4
A(S,N)X140181	B1	26	26	27 1/2
A(S,N)X140191	B1	26	26	27 1/2
A(S,N)X140241	B1	26	26	27 1/2
A(S,N)X140251	B2	26	26	32 1/2
A(S,N)X140301	C2	29	29	32 1/2
A(S,N)X140311	C2	29	29	32 1/2
A(S,N)X140361	C2	29	29	32 1/2
A(S,N)X140371	C2	29	29	32 1/2
A(S,N)X140421	C3	29	29	36 1/4
A(S,N)X140431	C3	29	29	36 1/4
A(S,N)X140481	D1	35 1/2	35 1/2	36 1/4
A(S,N)X140601	D5	35 1/2	35 1/2	38 1/4
A(S,N)Z140181	C1	29	29	34 1/2
A(S,N)Z14019	C1	29	29	34 1/2
A(S,N)Z140241	C1	29	29	34 1/2
A(S,N)Z14025	C1	29	29	34 1/2
A(S,N)Z140301	C5	29	29	36 1/4
A(S,N)Z14031	D2	35 1/2	35 1/2	34 5/8
A(S,N)Z140361	C5	29	29	36 1/4
A(S,N)Z14037	D6	35 1/2	35 1/2	40
A(S,N)Z140421	D6	35 1/2	35 1/2	39 3/4
A(S,N)Z140481	C5	29	29	36 1/4
A(S,N)Z140491	D2	35 1/2	35 1/2	34 1/2
A(S,N)Z140601	D2	35 1/2	35 1/2	34 1/2
ALXS3BN1810	B1	27½	26	26
ALXS3BN2410	B1	27½	26	26
ALXS3BN3010	B2	32½	26	26
ALXS3BN3610	B2	32½	26	26
ALXS3BN4210	D4	35¾	29	29
ALXS3BN4810	C6	39½	29	29
ALXS3BN6010	D6	39½	35½	35½

Model Number	Cabinet Group	Unit Dimensions (in)		
		Width	Depth	Height
ALXS3NN1810	B1	27½	26	26
ALXS3NN2410	B1	27½	26	26
ALXS3NN3010	B2	32½	26	26
ALXS3NN3610	B2	32½	26	26
ALXS3NN4210	D4	35¾	29	29
ALXS3NN4810	C6	39½	29	29
ALXS3NN6010	D6	39½	35½	35½
ALXS4BA1810	B1	27	26	26
ALXS4BA2410	B2	32½	26	26
ALXS4BA3010	C3	35.75"	29	29"
ALXS4BA3610	C6	39½	29	29
ALXS4BA4210	D4	35¾	35½	35½
ALXS4BA4810	D4	35¾	35½	35½
ALXS4BA6010	D6	39½	35½	35½
ALXS4NA1810	B1	27	26	26
ALXS4NA2410	B1	27	26	26
ALXS4NA3010	C2	32	29	29
ALXS4NA3610	C6	39½	29	29
ALXS4NA4210	D4	35¾	35½	35½
ALXS4NA4810	D4	35¾	35½	35½
ALXS4NA6010	D6	39½	35½	35½
ALXS5BA1810	B1	26	27	26
ALXS5BA2410	B2	29	32	29
ALXS5BA3010	D6	35½	39½	35½
ALXS5BA3610	D6	35½	39½	35½
ALXS5BA4210	D1	35½	36½	35½
ALXS5BA4810	D1	35½	36½	35½
ALXS5BA6010	D6	35½	41⅝	35½
ALXT7CA2410	D6	35½	35½	39½
ALXT7CA3610	D6	35½	35½	39½
ALXT7CA4810	D6	35½	35½	49 5/8
ALXT7CA6010	D6	35½	35½	49 5/8
ALZS4BA1810	C2	32½	29	29
ALZS4BA2410	C2	32½	29	29
ALZS4BA3010	C6	39½	29	29
ALZS4BA3610	D4	35¾	35½	35½
ALZS4BA4210	D4	35¾	35½	35½
ALZS4BA4810	D1	36½	35½	35½
ALZS4BA6010	D6	41¾	35½	35½

Note: The model numbers on this and following page may be followed by up to two (2) alphanumeric characters. Those characters will not affect the structural performance, since they refer to minor/major changes not related to the cabinet structure.

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MODEL INFORMATION (CONTINUED FROM PREVIOUS PAGE/ON NEXT PAGE)

Model Number	Cabinet Group	Unit Dimensions (in)		
		Width	Depth	Height
ALZS4NA1810	C2	32½	29	29
ALZS4NA2410	C2	32½	29	29
ALZS4NA3010	C6	39½	29	29
ALZS4NA3610	D4	35¾	35½	35½
ALZS4NA4210	D4	35¾	35½	35½
ALZS4NA4810	D1	36½	35½	35½
ALZS4NA6010	D6	41¾	35½	35½
ALZT7CA2410	D6	35½	35½	39½
ALZT7CA3610	D1	35½	35½	35¾
ALZT7CA4810	D6	35½	35½	41⅝
ALZT7CA6010	D6	35½	35½	41⅝
ASX16*181A*	C2	29	29	32
ASX16*241A*	C2	29	29	32
ASX16*301A*	D1	29	29	35 3/4
ASX16*361A*	D6	29	29	39 1/2
ASX16*421A*	D3	35 1/2	35 1/2	35 3/4
ASX16*481A*	D6	35 1/2	35 1/2	39 1/2
ASX160181	C2	29	29	32 1/4
ASX160241	C2	29	29	32 1/4
ASX160301	C3	29	29	36 1/4
ASX160311A	C3	29	29	38 1/4
ASX160361	C6	29	29	38 1/4
ASX160371A	D1	35 1/2	35 1/2	36 1/4
ASX160421	D1	35 1/2	35 1/2	36 1/4
ASX160481	D5	35 1/2	35 1/2	36 1/4
ASX160601	D3	35 1/2	35 1/2	38 1/4
ASX160611	D5	35 1/2	35 1/2	38 1/4
ASXC160241	C2	29	29	32 1/4
ASXC160361	C2	29	29	38 1/4
ASXC160481	D1	35 1/2	35 1/2	36 1/4
ASXC160601	D3	35 1/2	35 1/2	38 1/4
ASXC180241	D6	35 3/4	35 3/4	40
ASXC180361	D6	35 3/4	35 3/4	40
ASXC180361	D3	35 1/2	35 1/2	38 1/4
ASXC180481	D6	35 3/4	35 3/4	42 1/4
ASXC180481	D3	35 1/2	35 1/2	38 1/4
ASXC180601	D6	35 3/4	35 3/4	42 1/4
ASXC180601	D3	35 1/2	35 1/2	38 1/4
ASXC702410	D6	35½	35½	39½

Model Number	Cabinet Group	Unit Dimensions (in)		
		Width	Depth	Height
ASXC703610	D6	35½	35½	39½
ASXC704810	D6	35½	35½	41⅝
ASXC706010	D6	35½	35½	41⅝
ASXH401810	B1	26	26	27
ASXH402410	C2	29	29	32
ASXH403010	D6	35½	35½	39½
ASXH403610	D6	35½	35½	39½
ASXH404210	D1	35½	35½	36½
ASXH404810	D1	35½	35½	36½
ASXH406010	D6	35½	35½	41⅝
ASXH501810	B1	26	26	27
ASXH502410	B2	29	29	32
ASXH503010	D6	35½	35½	39½
ASXH503610	D6	35½	35½	39½
ASXH504210	D1	35½	35½	36½
ASXH504810	D1	35½	35½	36½
ASXH506010	D6	35½	35½	41⅝
ASXN401810	B1	26	26	27
ASXN402410	B2	26	26	32½
ASXN403010	C4	29	29	39½
ASXN403610	D1	35½	35½	35¾
ASXN404210	D6	35½	35½	39½
ASXN404810	D6	35½	35½	39½
ASXN406010	D1	35½	35½	36½
ASXV902410	D4	35 1/2	35 1/2	35
ASXV903610	D4	35 1/2	35 1/2	35
ASXV904810	D6	35 1/2	35 1/2	42 1/4
ASXV906101	D6	35 1/2	35 1/2	42 1/4
ASZ160181	C5	29	29	36 3/8
ASZ160241	D2	35 1/2	35 1/2	34 5/8
ASZ160301	D2	35 1/2	35 1/2	34 5/8
ASZ160361	D6	35 1/2	35 1/2	40
ASZ160421	C5	29	29	36 3/8
ASZ160481	D2	35 1/2	35 1/2	34 5/8
ASZ160601	D6	35 1/2	35 1/2	40
ASZC160241	C4	29	29	38 1/4
ASZC160361	D3	35 1/2	35 1/2	38 1/4
ASZC160481	D3	35 1/2	35 1/2	38 1/4
ASZC160601	D3	35 1/2	35 1/2	38 1/4

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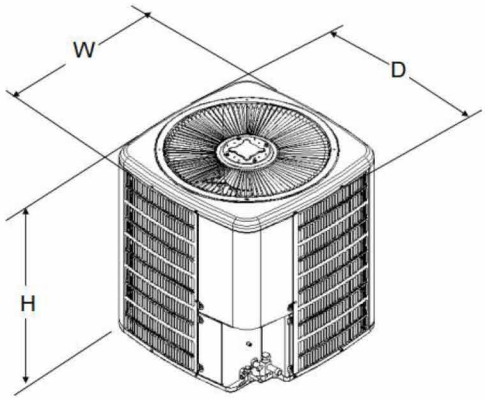
MODEL INFORMATION (CONTINUED FROM PREVIOUS PAGES)

Model Number	Cabinet Group	Unit Dimensions (in)		
		Width	Depth	Height
ASZC180241	D6	35 1/2	35 1/2	40
ASZC180361	D3	35 1/2	35 1/2	38 1/4
ASZC180481	D3	35 1/2	35 1/2	38 1/4
ASZC180601	D3	35 1/2	35 1/2	38 1/4
ASZC702410	D6	35 1/2	35 1/2	39 1/2
ASZC703610	D1	35 1/2	35 1/2	35 3/4
ASZC704810	D6	35 1/2	35 1/2	41 5/8
ASZC706010	D6	35 1/2	35 1/2	41 5/8
ASZH401810	C3	29	29	35 3/4
ASZH402410	C3	29	29	35 3/4
ASZH403010	C4	29	29	39 1/2
ASZH403610	D6	35 1/2	35 1/2	39 1/2
ASZH404210	D1	35 1/2	35 1/2	35 3/4
ASZH404810	D1	35 1/2	35 1/2	36 1/2
ASZH406010	D6	35 1/2	35 1/2	41 5/8
ASZH501810	C4	29	29	39½
ASZH502410	D1	35½	35½	35¾
ASZH503010	D6	35½	35½	39½
ASZH503610	D6	35½	35½	39½
ASZH504210	D1	35½	35½	35¾
ASZH504810	D1	35½	35½	36½
ASZH506010	D6	35½	35½	41⅝
ASZN401810	C3	29	29	35 3/4

Model Number	Cabinet Group	Unit Dimensions (in)		
		Width	Depth	Height
ASZN402410	C3	29	29	35 3/4
ASZN403010	C4	29	29	39 1/2
ASZN403610	D6	35 1/2	35 1/2	39 1/2
ASZN404210	D1	35 1/2	35 1/2	35 3/4
ASZN404810	D1	35 1/2	35 1/2	36 1/2
ASZN406010	D6	35 1/2	35 1/2	41 5/8
ASZV902410	D4	35 1/2	35 1/2	35
ASZV903610	D6	35 1/2	35 1/2	42 1/4
ASZV904810	D6	35 1/2	35 1/2	42 1/4
ASZV906010	D6	35 1/2	35 1/2	42 1/4
AVXC200241	D4	35 1/2	35 1/2	38 1/4
AVXC200361	D4	35 1/2	35 1/2	38 1/4
AVXC200481	D6	35 1/2	35 1/2	41 3/4
AVXC200601	D6	35 1/2	35 1/2	41 3/4
AVZC180241A	C5	29	29	38 1/4
AVZC180361A	C5	29	29	38 1/4
AVZC180481A	D2	35 1/2	35 1/2	38 1/4
AVZC180601A	D2	35 1/2	35 1/2	38 1/4
AVZC200241	D4	35 1/2	35 1/2	38 1/4
AVZC200361	D6	35 1/2	35 1/2	41 1/4
AVZC200481	D6	35 1/2	35 1/2	41 1/4
AVZC200601	D6	35 1/2	35 1/2	41 1/4

MODEL INFORMATION NOTES

Unit dimensions listed are unit net dimensions (as opposed to packing/shipping dimensions). Unit net weights shall be between 100 lb and 375 lb, typ. Model information listed herein is based on information provided by the client. See Detail below for definitions of unit dimensions. Unit dimensions may be abbreviated herein as "H" for "unit height", "W" for "unit width", and "D" for "unit depth". Unit appearance may vary. Please contact Report Holder for more information.



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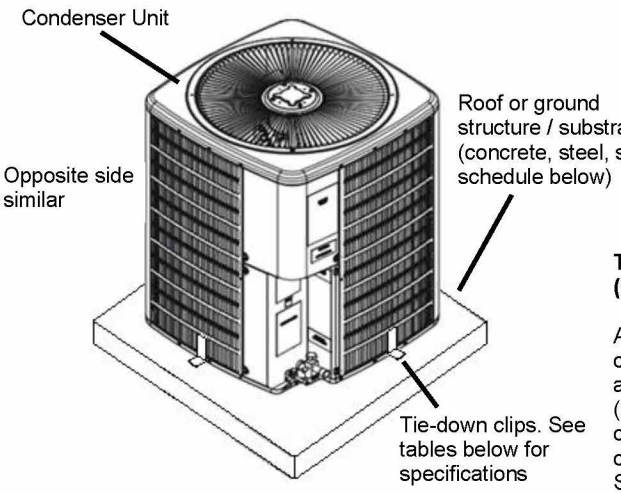
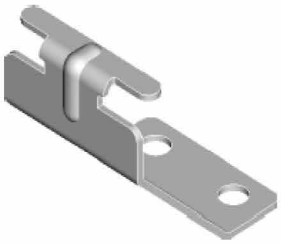
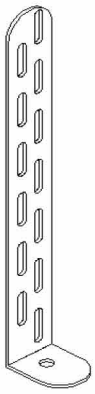
PRODUCT INSTALLATION





TIE-DOWN CLIP (GROUND APPLICATION)

ASTM A653 G60 galvanized cold rolled steel 0.072" thick for all cabinets tied down at ground (Goodman Bracket); fasten cabinet using (2) anchors per clip from Anchor to Host Structure Schedule Table. Clip integrates into base pan slot.



TIE-DOWN CLIP (GROUND AND ROOF APPLICATION)

Miami Tech CUTD 1" wide and any length ASTM A653 galvanized steel 0.07" thick for all cabinets tied down to a roof structure; fasten clip to structure using anchor from Anchor Schedule to Host Structure Table and (2) #10 x 1/2" SS 410 self-drilling screw to fasten clip to unit base pan. See Tie-down Strap & Clip Schedule Table for clip amount. Hurricane kit #DGACUTD36K

Tie-Down Strap & Clip Schedule						
Unit Model	**Max ASD Lateral Pressure**	**Max ASD Uplift Pressure**	**Strap Req'd?**	**Qty**	**Minimum WLL (lbs)**	**Tie Down Clips Needed**
Cabinet A1	50 psf	39 psf	NO	N/A	N/A	4
	106 psf	84 psf	YES	2	300	8
	119 psf	94 psf	YES	2	400	8
Cabinet B1, B2	50 psf	39 psf	NO	N/A	N/A	4
	106 psf	84 psf	YES	2	400	8
	119 psf	94 psf	YES	2	400	8
Cabinet C1 to C5	50 psf	39 psf	NO	N/A	N/A	4
	106 psf	84 psf	YES	2	500	8
	119 psf	94 psf	YES	2	600	8
Cabinet D1 to D6	50 psf	39 psf	NO	N/A	N/A	4
	106 psf	84 psf	YES	2	600	8
	119 psf	94 psf	YES	2	600	8

Tie-down Strap & Clip Type:
(for roof applications)

Working Load Limit (WLL) is strap's manufacturer - specified per strap. A minimum strap width of 1" is required for all cabinets.
Clips heights shall be adequate to fit SMS within base pan height. Verify height on site.
Clips should be placed at center on each side and equally spaced, for ground mounted condition.
See details herein for roof mounted condition.

Note: *(Vertical Strapping)*

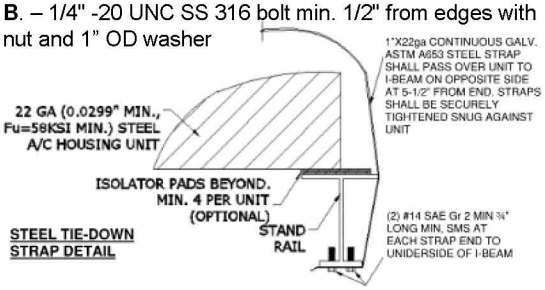
1. Tie-down straps shall be wrapped around unit and roof stand rail, and shall be tightened using the buckle. Provide two straps per unit.
2. Strap material shall be either high strength webbing and shall be compliant for exterior grade use if they contain plastic components, per FBC chapter 26. Or 1" wide 22ga ASTM A653 steel strap secured with (2) #14 SS SMS to the bottom of the stand rail.

Anchor to Host Structure Schedule					
Unit Model	**Max ASD Lateral Pressure**	**Max ASD Uplift Pressure**	**Concrete 3,000 psi**	**1/8"Min A36 Steel**	**1/8" Min 6061-T6 Aluminum**
All Cabinets A1, B1-2, C1-5, D1-6	50 psf	39 psf	A	N/A	N/A
	119 psf	94 psf	N/A	B	B

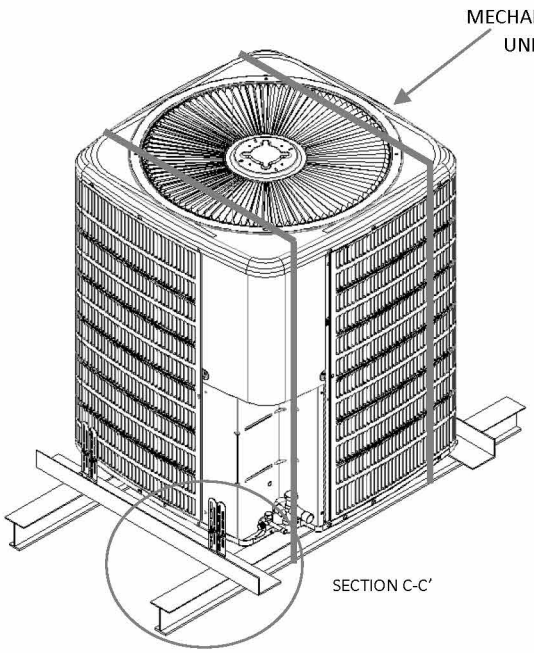
Anchor Types to Host Structure:

A. – 1/4" Dewalt ULTRACON SS4 Anchor or equivalent embedded 3" in 3,000 psi concrete. 2 1/2" from edge minimum.
B. – 1/4" -20 UNC SS 316 bolt min. 1/2" from edges with nut and 1" OD washer

Panel Integrity Summary			
Unit Model	**Max ASD Lateral Pressure**	**Max ASD Uplift Pressure**	**Horizontal Strapping Required**
All Cabinets A1, B1-2, C1-5, D1-6	50 psf	39 psf	NONE
	119 psf	94 psf	NONE



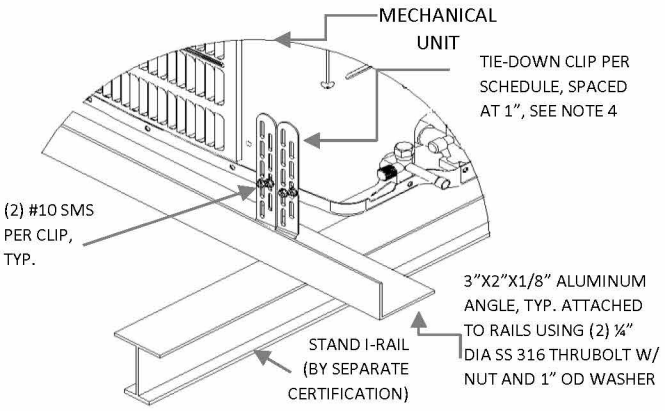
STRAP AND CLIP ROOF INSTALLATION



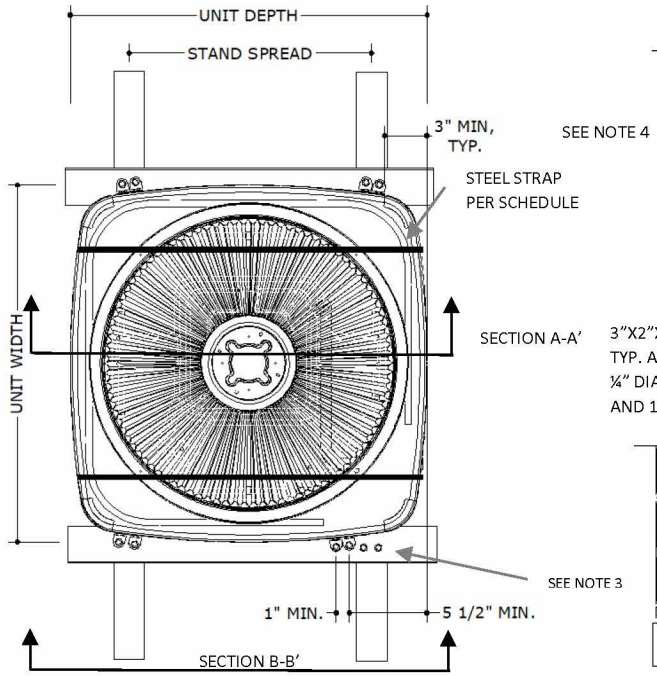
MECHANICAL UNIT ROOF MOUNTED ISOMETRIC

NOTES:

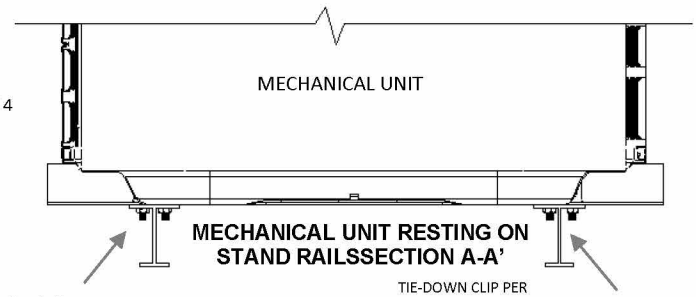
1. 3"X2"X1/8" ALUMINUM ANGLE SHALL BE 6061-T6 AND SHALL OVERHANG 8" MAXIMUM FROM STAND RAIL PER SIDE.
2. CONDENSER SHALL REST ON TOP OF THE STAND RAILS.
3. CLIPS MAY NOT COINCIDE WITH RAIL BELOW, ATTACHED ANGLE USING (2) ¼" THRUBOLT W/ NUT AND 1.0 OD WASHER.
4. TIE-DOWN CLIPS FOR CABINETS EQUAL OR SMALLER THAN 26" WIDE SHALL BE LOCATED 1" FROM EDGE MIN.



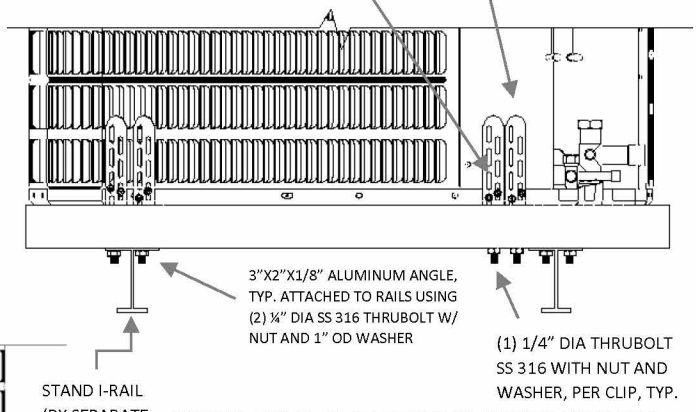
MECHANICAL UNIT TIE-DOWN DETAIL (SECTION C-C')



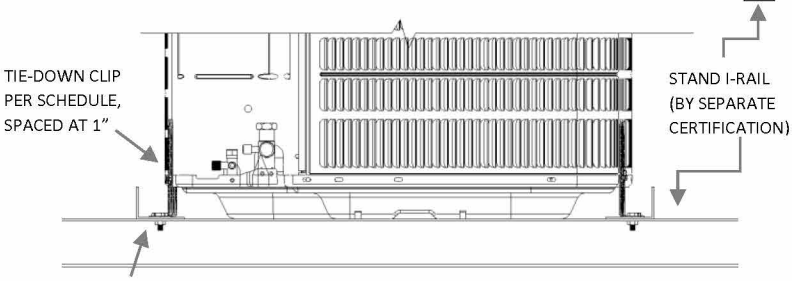
MECHANICAL UNIT ROOF MOUNTED PLAN VIEW



MECHANICAL UNIT RESTING ON STAND RAILSSECTION A-A'



MECHANICAL UNIT RESTING ON STAND RAILS FRONT VIEW (SECTION B-B')

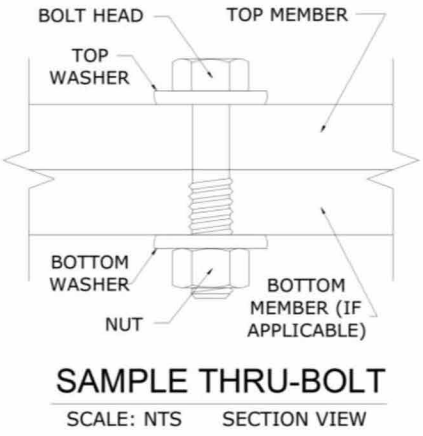


MECHANICAL UNIT RESTING ON STAND RAILS SIDE VIEW

Note: Installers must ensure that screws used to fasten the tie-down clips with the unit base pan do not touch the coil preventing any damage. All pieces and installation parts per Miami Tech Hurricane kit #DGACUTD36K

TERMINOLOGY

The following abbreviations may appear in this report: "Addtl." for "additional", "AHJ" for "Authority Having Jurisdiction", "alum" for "aluminum", "ASCE" for "American Society of Civil Engineers", "ASD" for "Allowable Stress Design", "ASTM" for "American Society for Testing and Materials", "EA." for "each", "E.D." for edge distance", "EDDS" for "extra deep drawing steel", "e.g." for "*exempli gratia*" or "for example", "equiv." for "equivalent", "FBC" for "Florida Building Code", "FEA" for "Finite Element Analysis", "FLCA" for "Florida Certificate of Authorization", "FS" for "Florida Statutes", "Fu" for "ultimate tensile strength" or "ultimate tensile stress", "Fy" for "yield strength" or "yield stress" "GA" for "gauge", "GR." or "Gr." for "grade", "HVAC" for "heating, ventilation, and air conditioning", "HVHZ" for "High-Velocity Hurricane Zone", "i.e. " for "*id est*" or "in other words", "in" for "inch", "lb" for "pound (force)", "max." for "maximum", "min." for "minimum", "mm" for "millimeter", "NTS" for "not to scale", "O.C. " for "on center", "OD" for "outer diameter", "pcf" for "pounds (force) per cubic foot", "PE" for "Professional Engineer", "qty" for "quantity", "SAE" for "Society of Automotive Engineering", "SMS" for "sheet metal screws", "SS" for "stainless steel", "TER" for "Technical Evaluation Report", "typ." for "typical", "ult" for "ultimate loads", "U.N.O." for "unless noted otherwise", "UTS" for "ultimate tensile strength" or "ultimate tensile stress", "WLL" for "working load limit", "w/o" for "without", "YS" for "yield strength" or "yield stress", "#" for "number", "&" for "and", and "Ø" for "diameter". Please visit ecalc.io/glossary for additional abbreviation clarifications.



Note: The term "Thru-Bolt" or through bolt, if used herein, refers to a bolt passing through the member(s) in contact and is fastened by a nut at the end opposite the screw head. Nut shall be equivalent to or exceed the strength of the bolt U.N.O. Nut shall be sized to accommodate the same nominal diameter as the bolt U.N.O. See diagram above-right for a sample thru-bolt configuration.

Note: For instances herein which list material specifications as *"[material type] or stronger":*
U.N.O. herein, the term "stronger" refers to a material with a UTS value equal to or greater than the UTS value of the stated material type. Consult appropriate literature for established material UTS values.

Note: Equivalent steel gauge thicknesses as used in this evaluation, U.N.O., are as follows:
22 GA (.030"), 20 GA (.036"), 18 GA (.048"), 16 GA (.060"), 14 GA (.075"), 12 GA (.098").

LIMITATIONS & CONDITIONS OF USE, CONTINUED

Use of this product shall be in strict accordance with this TER as noted herein. The supporting host structure shall be designed to resist all superimposed loads as determined by others on a site-specific basis as may be required by the authority having jurisdiction. Host structure conditions that are not accounted for in this product's respective anchor schedule shall be designed for on a site-specific basis by a registered Professional Engineer. No evaluation is offered for the host supporting structure by use of this document. Adjustment factors noted herein and the applicable building codes must be considered, where applicable. Product components shall be of the material(s) specified in the manufacturer-provided product specifications. All supporting components which are permanently installed shall be protected against corrosion, contamination, and other such damage at all times. All fasteners and anchors shall be installed in accordance with the applicable provisions specified herein in addition to the anchor/fastener manufacturers' published installation instructions. Fasteners must penetrate the supporting members such that the full length of the threaded portion is embedded within the main member.

All of the wind-resisting exterior panels (with accompanying retrofits) individually meet or exceed their capacity to resist the design wind loads as stated in the calculations as required by the codes and standards stated herein. Due to the indeterminate nature of these units, distortion, deflection, and material deformation cannot be accurately evaluated, but with the diaphragm action of external components and internal stiffeners, the base unit (with accompanying retrofits stated herein as applicable) has the capacity to withstand the design wind loads without detaching from the unit and becoming flying debris.

Survivability: Evaluation reports are valid for a newly installed unit and do not include certification of the product beyond a design event or if impacted by any debris. Inspections shall be implemented annually by the end user and after every named storm. All fasteners and cabinet components are to be verified, and all damaged, loose, corroded and/or broken fasteners and cabinet components shall be replaced to ensure structural integrity against hurricane wind forces. Contact this office for any reevaluation needs or as designated by the Authority Having Jurisdiction.

Durability: Components or component assemblies shall not deteriorate, crack, fail, or lose functionality due to galvanic corrosion or weathering. All supporting components which are permanently installed shall be protected against corrosion, contamination, and other such damage at all times. Each component or component assembly shall be supported and oriented in its intended installation position. All exposed plastic components shall be certified to resist sunlight exposure as specified by ASTM B117, or ASTM G155 in Broward or Miami-Dade counties.

Extent of Certification: Certification pertains to the overall structural integrity of the unit components listed within the evaluation as required by code, subject to the limitations and criteria stated herein. Operability during or after a design event is not included in this certification. Water infiltration is outside the bounds of this certification. No other certifications are intended other than as described herein. This evaluation alone does not offer any evaluation for large missile impact debris or cyclic wind requirements unless specifically stated herein.

Proj. #	Remarks	By	Checked	Date	Proj. #	Remarks	By	Checked	Date
16-3146.3	Initial Issue	LAO	FLB	7/6/16	20-34275	Add Model #'s & Template Update	MRT	EPR	3/14/23
20-34275	Update to 2020 FBC	CCB	RWN	12/29/20	23-69181	Add Models & 2023 FBC Update	MRT	RWN	01/17/24
20-34275	Add Model #'s	MD	RS	7/12/22	23-69181	Add New Models	MARH	RWN	06/13/24

APPENDIX A: DESIGN WIND PRESSURE GUIDE

Max. Ult. Wind Speed (V_{ult})	Max. MRH (Roof Height)	Exposure Category	Required Design Wind Pressures (ASD)	
			Lateral Pressure	Uplift Pressure
140 mph	At-Grade (0 ft)	C	± 26 psf	0* psf
		D	± 31 psf	0* psf
	100 ft	C	± 63 psf	50 psf
		D	± 71 psf	56 psf
	200 ft	C	± 72 psf	57 psf
		D	± 80 psf	63 psf
175 mph	At-Grade (0 ft)	C	± 40 psf	0* psf
		D	± 49 psf	0* psf
	100 ft	C	± 98 psf	77 psf
		D	± 111 psf	87 psf
	200 ft	C	± 113 psf	89 psf
		~~D~~	~~± 124 psf~~	~~98 psf~~
186 mph	At-Grade (0 ft)	C	± 46 psf	0* psf
		D	± 54 psf	0* psf
	100 ft	C	± 111 psf	87 psf
		~~D~~	~~± 125 psf~~	~~99 psf~~
	~~200 ft~~	~~C~~	~~± 127 psf~~	~~100 psf~~
		~~D~~	~~± 140 psf~~	~~111 psf~~

~~100 psf~~ Note: Any table values with the format shown left, if present, indicate design wind pressures and site conditions that are **not approved for use** by this evaluation. Seek additional engineering or contact this firm for design solutions.

DIRECTIVE: This design pressure guide is for reference only and shall be approved for use by the Authority Having Jurisdiction (AHJ). If the design pressures listed in this guide are not used, required design pressures shall be calculated separately. For site-specific scenarios classified as Exposure Category B, the required design pressures stated for Exposure Category C in the above guide shall be used or design pressures shall be calculated separately. For heights and parameters beyond the parameters listed in this guide, visit our Online Calculator via the website link (https://ecalc.io/forces) or QR Code below, or obtain calculations separately by others.

The required ASD design pressures listed in this guide were calculated per the table's listed corresponding site conditions. The project design professional or permitting contractor shall verify that the site-specific conditions are equal to or less than the approved design parameters listed in the guide. Per the note below table: any values shown as "~~XX psf~~", indicate wind pressures and corresponding site conditions that are **not valid for use** with this evaluation (exceeds the max. rated pressures).

*Note: Per the codes and standards referenced herein, uplift is not required for mechanical equipment at-grade. If uplift at-grade is required by the AHJ, contact this firm for a site-specific evaluation.

At-Grade (0 ft MRH) Required Design Pressures:

- ASCE 7 "Design Wind Loads: Other Structures"
- Structure Shape = Square, flat terrain
- Height of structure (unit + stand or curb, if used) = 6 ft max.
- Width of unit = 1 ft min., Depth of unit = 11 in min.

Rooftop (>15 ft MRH) Required Design Pressures:

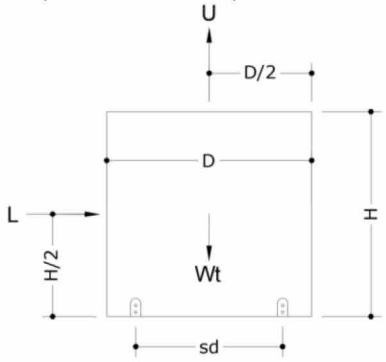
- ASCE 7 "Design Wind Loads: Other Structures: Rooftop Structures and Equipment for Buildings"
- Structure Shape = Square, flat terrain
- z = up to 7 ft, where z = height of stand or curb + ½ unit height
- Lateral GC_f = 1.90; Uplift GC_f = 1.50

VISIT ECALC.IO/FORCES

FOR DESIGN AID CALCULATORS AND RESOURCES RELATED TO THIS TER & GUIDES HEREIN, OR SCAN THE QR CODE RIGHT >

UNIT REACTIONS FROM WIND GUIDE

DIRECTIVE: This guide is intended for use by a design professional. Design parameters shall abide all specifications and limitations stated in this report. Design professional shall consider all forces, including seismic and snow loads, per the governing building code. Unit reactions obtained from this guide shall be verified by a registered Professional Engineer. Reactions are applicable for unit-to-host connections only. Sample calculations are provided below.



Design Parameters:

- Lateral Wind Pressure, P_lat
- Unit Height, H
- Unit Width, W
- Support Spacing across Depth, sd
- Uplift Wind Pressure, P_up
- Unit Depth, D
- Unit Weight, Wt
- Support Spacing across Width, sw

Unit Reaction Equations:

Long Side (Width x Height):

- Sliding Force, L = P_lat x W x H
- Uplift Force, U = P_up x W x D
- Total Tension per Long Side = (L x H/2 + U x sd/2 – Wt x 0.6 x sd/2) / sd

Short Side (Depth x Height):

- Sliding Force, L = P_lat x D x H
- Uplift Force, U = P_up x W x D
- Total Tension per Short Side = (L x H/2 + U x sw/2 – Wt x 0.6 x sw/2) / sw

Example: A (48" W x 36" D x 42" H), 250 lb net weight unit at wind pressures of 120 psf lateral and 95 psf uplift, on a 24" wide roof stand, shall have the following unit reactions:

Long Side (Width x Height):

1. Sliding Force, L = P_lat x W x H
   = (120 psf) x (48 in) x (42 in) x (1 in^2 / 144 ft^2) = **1680 lb**
2. Uplift Force, U = P_up x W x D
   = (95 psf) x (48 in) x (36 in) x (1 in^2 / 144 ft^2) = **1140 lb**
3. Total Tension per Long Side =
   = (L x H/2 + U x sd/2 – Wt x 0.6 x sd/2) / sd
   = ((1680 lb x 42/2 in) + (1140 lb x 24/2 in) – (250 lb x 0.6 x 24/2 in)) / 24 in = **1965 lb**

Short Side (Depth x Height):

1. Sliding Force, L = P_lat x D x H
   = (120 psf) x (36 in) x (42 in) x (1 in^2 / 144 ft^2) = **1260 lb**
2. Uplift Force, U = P_up x W x D
   = (95 psf) x (48 in) x (36 in) x (1 in^2 / 144 ft^2) = **1140 lb**
3. Total Tension per Short Side =
   = (L x H/2 + U x sw/2 – Wt x 0.6 x sw/2) / sw
   = ((1260 lb x 42/2 in) + (1140 lb x 48/2 in) – (250 lb x 0.6 x 48/2 in)) / 48 in = **1046 lb**

IN ALL CONDITIONS IT IS THE RESPONSIBILITY OF THE PERMIT HOLDER TO ENSURE THE HOST STRUCTURE IS CAPABLE OF WITHSTANDING THE RATED GRAVITY, LATERAL, AND UPLIFT FORCES BY SITE-SPECIFIC DESIGN. NO WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, IS OFFERED BY ENGINEERING EXPRESS AS TO THE INTEGRITY OF THE HOST STRUCTURE TO CARRY DESIGN FORCE LOADS INCURRED BY THIS UNIT.