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

EVALUATION SUBJECT: **DAIKIN SPLIT SYSTEMS**

TER-23-69186

REPORT HOLDER:

DAIKIN COMFORT TECHNOLOGIES MANUFACTURING, L.P.
19001 KERMIER ROAD
WALLER, TX 77484, USA
877-254-4729 | DAIKINCOMFORT.COM



SCOPE OF EVALUATION (compliance with the following codes):

THIS IS A STRUCTURAL (WIND) PERFORMANCE EVALUATION ONLY. NO ELECTRICAL OR TEMPERATURE PERFORMANCE RATINGS OR CERTIFICATIONS ARE OFFERED OR IMPLIED HEREIN. 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
DC3SEN1810	B1	27.50	26.00	26.00
DC3SEN2410	B1	27.50	26.00	26.00
DC3SEN3010	B2	32.50	26.00	26.00
DC3SEN3610	B2	32.50	26.00	26.00
DC3SEN4210	D4	35.75	29.00	29.00
DC3SEN4810	C6	39.50	29.00	29.00
DC3SEN6010	D6	39.50	35.50	35.50
DC3SQN1810	B1	27.50	26.00	26.00
DC3SQN2410	B1	27.50	26.00	26.00
DC3SQN3010	B2	32.50	26.00	26.00
DC3SQN3610	B2	32.50	26.00	26.00
DC3SQN4210	D4	35.75	29.00	29.00
DC3SQN4810	C6	39.50	29.00	29.00
DC3SQN6010	D6	39.50	35.50	35.50
DC4SEA 1810	B1	27.00	26.00	26.00
DC4SEA 2410	B2	32.50	26.00	26.00
DC4SEA 3010	C3	35.75	29.00	29.00
DC4SEA 3610	C6	39.50	29.00	29.00
DC4SEA 4210	D4	35.75	35.50	35.50
DC4SEA 4810	D4	35.75	35.50	35.50
DC4SEA 6010	D6	39.50	35.50	35.50
DC4SQA 1810	B1	27.00	26.00	26.00
DC4SQA 2410	B1	27.00	26.00	26.00
DC4SQA 3010	C2	32.00	29.00	29.00
DC4SQA 3610	C6	39.50	29.00	29.00
DC4SQA 4210	D4	35.75	35.50	35.50
DC4SQA 4810	D4	35.75	35.50	35.50
DC4SQA 6010	D6	39.50	35.50	35.50
DH4SEA 1810	C2	32.50	29.00	29.00
DH4SEA 2410	C2	32.50	29.00	29.00
DH4SEA 3010	C6	39.50	29.00	29.00
DH4SEA 3610	D4	35.75	35.50	35.50
DH4SEA 4210	D4	35.75	35.50	35.50
DH4SEA 4810	D1	36.50	35.50	35.50
DH4SEA 6010	D6	41.75	35.50	35.50
DH4SQA 1810	C2	32.50	29.00	29.00
DH4SQA 2410	C2	32.50	29.00	29.00
DH4SQA 3010	C6	39.50	29.00	29.00
DH4SQA 3610	D4	35.75	35.50	35.50

Model Number	Cabinet Group	Unit Dimensions (in)		
		Width	Depth	Height
DH4SQA4210	D4	35.75	35.50	35.50
DH4SQA4810	D1	36.50	35.50	35.50
DH4SQA6010	D6	41.75	35.50	35.50
DX13S(A,N)0181	A 1	23.00	23.00	25.75
DX13S(A,N)0241	B1	26.00	26.00	27.50
DX13S(A,N)0301	B1	26.00	26.00	27.50
DX13S(A,N)0361	B1	26.00	26.00	27.50
DX13S(A,N)0421	C3	29.00	29.00	36.25
DX13S(A,N)0481	C3	29.00	29.00	36.25
DX13S(A,N)0601	C6	29.00	29.00	40.00
DX13S(A,N)0611	D5	35.50	35.50	38.25
DX13SA0363A*	D2	29.00	29.00	28.75
DX13SA0364A*	C2	29.00	29.00	28.75
DX13SA0483A*	C5	29.00	29.00	36.25
DX13SA0484A*	C5	29.00	29.00	36.25
DX13SA0603A*	D3	35.50	35.50	38.25
DX13SA0604A*	D3	35.50	35.50	38.25
DX14S(A,N)0181	B1	26.00	26.00	27.50
DX14S(A,N)0191	B1	26.00	26.00	27.50
DX14S(A,N)0241	B1	26.00	26.00	27.50
DX14S(A,N)0251	B2	26.00	26.00	32.50
DX14S(A,N)0301	C2	29.00	29.00	32.50
DX14S(A,N)0311	C2	29.00	29.00	32.50
DX14S(A,N)0361	C2	29.00	29.00	32.50
DX14S(A,N)0371	C2	29.00	29.00	32.50
DX14S(A,N)0421	C3	29.00	29.00	36.25
DX14S(A,N)0431	C3	29.00	29.00	36.25
DX14S(A,N)0481	D1	35.50	35.50	36.25
DX14S(A,N)0601	D5	35.50	35.50	38.25
DX16SA0181	C2	29.00	29.00	32.25
DX16SA0241	C2	29.00	29.00	32.25
DX16SA0301	C3	29.00	29.00	36.25
DX16SA0311A	C3	29.00	29.00	38.25
DX16SA0361	C6	29.00	29.00	38.25
DX16SA0371A	D1	35.50	35.50	36.25
DX16SA0421	D1	35.50	35.50	36.25
DX16SA0481	D5	35.50	35.50	36.25
DX16SA0601	D3	35.50	35.50	38.25
DX16SA0611	D5	35.50	35.50	38.25

Note: The model numbers on this 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
DX16TC0241	C2	29.25	29.25	32.25
DX16TC0361	D3	35.75	35.75	36.50
DX16TC0481	D3	35.75	35.75	37.00
DX16TC0601	D6	35.75	35.75	42.25
DX18TC0241	D6	35.75	35.75	40.00
DX18TC0361	D6	35.75	35.75	40.00
DX18TC0481	D6	35.75	35.75	42.25
DX18TC0601	D6	35.75	35.75	42.25
DX20V00241	D4	35.50	35.50	38.25
DX20V00361	D4	35.50	35.50	38.25
DX20V00481	D6	35.50	35.50	41.75
DX20V00601	D6	35.50	35.50	41.75
DX3SEA3630**	C2	29.00	29.00	32.50
DX3SEA3640**	C2	29.00	29.00	32.50
DX3SEA4830**	D1	35.50	35.50	35.75
DX3SEA4840**	D1	35.50	35.50	35.75
DX3SEA6030**	D6	35.50	35.50	39.50
DX3SEA6040**	D6	35.50	35.50	39.50
DX4SEA1810	B1	26.00	26.00	27.00
DX4SEA2410	C2	29.00	29.00	32.00
DX4SEA3010	D6	35.50	35.50	39.50
DX4SEA3610	D6	35.50	35.50	39.50
DX4SEA4210	D1	35.50	35.50	36.50
DX4SEA4810	D1	35.50	35.50	36.50
DX4SEA6010	D6	35.50	35.50	41.63
DX4SQA1810	B1	26.00	26.00	27.00
DX4SQA2410	B2	26.00	26.00	32.50
DX4SQA3010	C4	29.00	29.00	39.50
DX4SQA3610	D1	35.50	35.50	35.75
DX4SQA4210	D6	35.50	35.50	39.50
DX4SQA4810	D6	35.50	35.50	39.50
DX4SQA6010	D1	35.50	35.50	36.50
DX5SEA1810	B1	26.00	26.00	27.00
DX5SEA2410	C2	29.00	29.00	32.00
DX5SEA3010	D6	35.50	35.50	39.50
DX5SEA3610	D6	35.50	35.50	39.50
DX5SEA4210	D1	35.50	35.50	36.50
DX5SEA4810	D1	35.50	35.50	36.50
DX5SEA6010	D6	35.50	35.50	41.63

Model Number	Cabinet Group	Unit Dimensions (in)		
		Width	Depth	Height
DX7TCA2410	D6	35.50	35.50	39.50
DX7TCA3610	D6	35.50	35.50	39.50
DX7TCA4810	D6	35.50	35.50	41.63
DX7TCA6010	D6	35.50	35.50	41.63
DX9VCA2410	D4	35.50	35.50	35.00
DX9VCA3610	D4	35.50	35.50	35.00
DX9VCA4810	D6	35.50	35.50	42.25
DX9VCA6010	D6	35.50	35.50	42.25
DZ13SA0363A*	C2	29.00	29.00	32.25
DZ13SA0483A*	C1	29.00	29.00	34.25
DZ13SA0484A*	C1	29.00	29.00	34.25
DZ13SA0603A*	C2	35.50	35.50	34.25
DZ13SA0604A*	D2	35.50	35.50	34.25
DZ14S(A,N)0181	C1	29.00	29.00	34.50
DZ14S(A,N)0241	C1	29.00	29.00	34.50
DZ14S(A,N)0301	C5	29.00	29.00	36.25
DZ14S(A,N)0361	C5	29.00	29.00	36.25
DZ14S(A,N)0421	D6	35.50	35.50	39.75
DZ14S(A,N)0481	C5	29.00	29.00	36.25
DZ14S(A,N)0491	D2	35.50	35.50	34.50
DZ14S(A,N)0601	D2	35.50	35.50	34.50
DZ14S(A,N)14019	C1	29.00	29.00	34.50
DZ14S(A,N)14025	C1	29.00	29.00	34.50
DZ14S(A,N)14031	D2	35.50	35.50	34.63
DZ14S(A,N)14037	D6	35.50	35.50	40.00
DZ14SA0363A*	C2	29.00	29.00	32.25
DZ14SA0364A*	C2	29.00	29.00	32.25
DZ14SA0483A*	C1	29.00	29.00	34.25
DZ14SA0484A*	C1	29.00	29.00	34.25
DZ14SA0603A*	D2	35.50	35.50	34.25
DZ14SA0604A*	D2	35.50	35.50	34.25
DZ16SA0181	C5	29.00	29.00	36.38
DZ16SA0241	D2	35.50	35.50	34.63
DZ16SA0301	D2	35.50	35.50	34.63
DZ16SA0361	D6	35.50	35.50	40.00
DZ16SA0421	C5	29.00	29.00	36.38
DZ16SA0481	D2	35.50	35.50	34.63
DZ16SA0601	D6	35.50	35.50	40.00
DZ16TC0241	C4	29.00	29.00	38.25

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MODEL INFORMATION (CONTINUED FROM PREVIOUS PAGES)

Model Number	Cabinet Group	Unit Dimensions (in)		
		Width	Depth	Height
DZ16TC0241C	D2	35.50	35.50	34.63
DZ16TC0361	D3	35.50	35.50	38.25
DZ16TC0361C	D6	35.50	35.50	40.00
DZ16TC0481	D3	35.50	35.50	38.25
DZ16TC0481C	D2	35.50	35.50	34.63
DZ16TC0601	D3	35.50	35.50	38.25
DZ16TC0601C	D6	35.50	35.50	40.00
DZ18TC0241C	D6	35.50	35.50	40.00
DZ18TC0361	D3	35.50	35.50	38.25
DZ18TC0361C	D2	35.50	35.50	34.63
DZ18TC0481	D3	35.50	35.50	38.25
DZ18TC0481C	D6	35.50	35.50	40.00
DZ18TC0601	D3	35.50	35.50	38.25
DZ18TC0601C	D6	35.50	35.50	40.00
DZ18V00241	C5	29.00	29.00	38.25
DZ18V00361	C5	29.00	29.00	38.25
DZ18V00481	D2	35.50	35.50	38.25
DZ18V00601	D2	35.50	35.50	38.25
DZ20V00241	D4	35.50	35.50	38.25
DZ20V00361	D6	35.50	35.50	41.25
DZ20V00481	D6	35.50	35.50	41.25
DZ20V00601	D6	35.50	35.50	41.25
DZ4SEA1810	C3	29.00	29.00	35.75
DZ4SEA2410	C3	29.00	29.00	35.75
DZ4SEA3010	C4	29.00	29.00	39.50
DZ4SEA3610	D6	35.50	35.50	39.50
DZ4SEA3630**	D6	35.50	35.50	39.50
DZ4SEA3640**	D6	35.50	35.50	39.50
DZ4SEA4210	D1	35.50	35.50	35.75

Model Number	Cabinet Group	Unit Dimensions (in)		
		Width	Depth	Height
DZ4SEA4810	D1	35.50	35.50	36.50
DZ4SEA4810	D1	35.50	35.50	36.50
DZ4SEA4830**	D1	35.50	35.50	36.50
DZ4SEA4840**	D1	35.50	35.50	36.50
DZ4SEA6010	D6	35.50	35.50	41.63
DZ4SEA6030**	D6	35.50	35.50	41.63
DZ4SEA6040**	D6	35.50	35.50	41.63
DZ4SQA1810	C3	29.00	29.00	35.75
DZ4SQA2410	C3	29.00	29.00	35.75
DZ4SQA3010	C4	29.00	29.00	39.50
DZ4SQA3610	D6	35.50	35.50	39.50
DZ4SQA4210	D1	35.50	35.50	35.75
DZ4SQA4810	D1	35.50	35.50	36.58
DZ4SQA6010	D6	35.50	35.50	41.63
DZ5SEA1810	D6	29.00	29.00	39.50
DZ5SEA2410	D1	35.50	35.50	35.75
DZ5SEA3010	D6	35.50	35.50	39.50
DZ5SEA3610	D6	35.50	35.50	39.50
DZ5SEA4210	D1	35.50	35.50	35.75
DZ5SEA4810	D1	35.50	35.50	36.50
DZ5SEA6010	D6	35.50	35.50	41.63
DZ7TCA2410	D6	35.50	35.50	39.50
DZ7TCA3610	D1	35.50	35.50	35.75
DZ7TCA4810	D6	35.50	35.50	41.63
DZ7TCA6010	D6	35.50	35.50	41.63
DZ9VCA2410	D4	35.50	35.50	35.00
DZ9VCA3610	D6	35.50	35.50	42.25
DZ9VCA4810	D6	35.50	35.50	42.25
DZ9VCA6010	D6	35.50	35.50	42.25

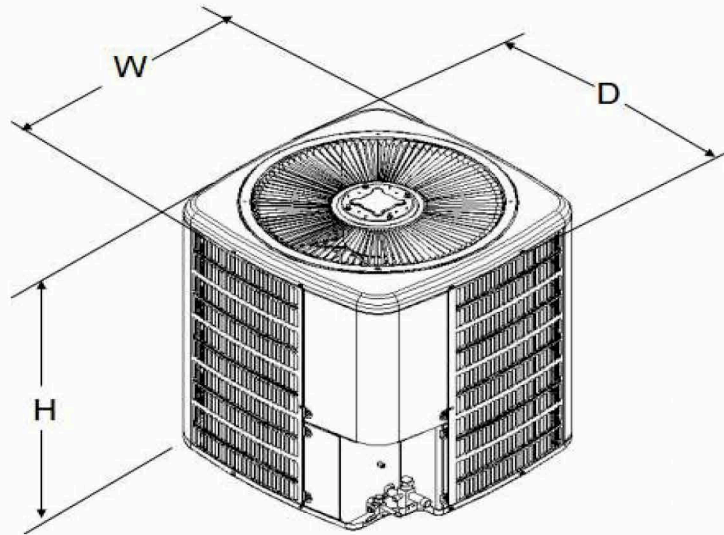
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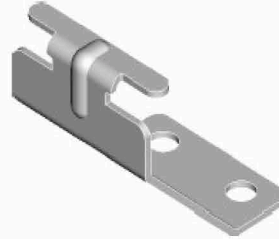
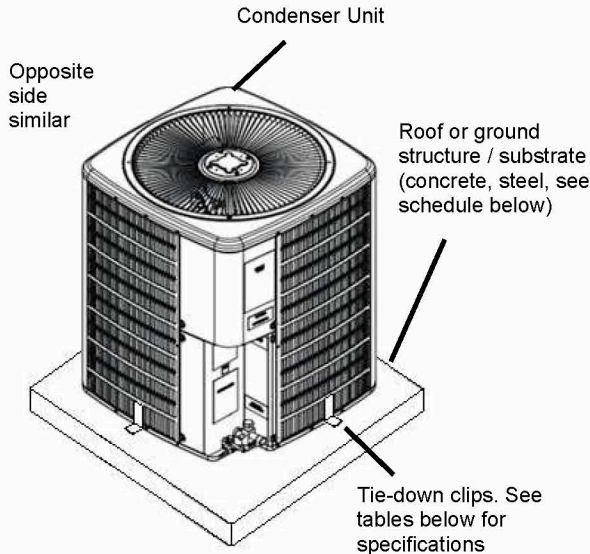
MODEL INFORMATION NOTES

Unit dimensions listed herein are unit net dimensions (as opposed to packing/shipping dimensions). Unit net weights shall be between 120 lb and 400 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.



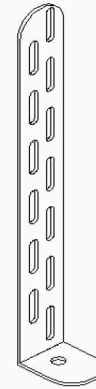
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PRODUCT INSTALLATION



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 Lateral Pressure	Max 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

Anchor to Host Structure Schedule					
Unit Model	Max Lateral Pressure	Max 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

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

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 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

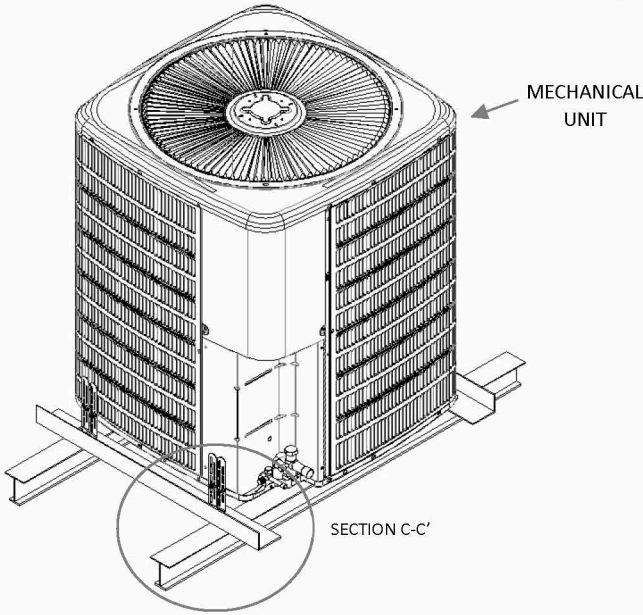
NA. - No anchors apply.

NOTE: For all tables on this page: Wind pressures listed are allowable (ASD) wind pressures.

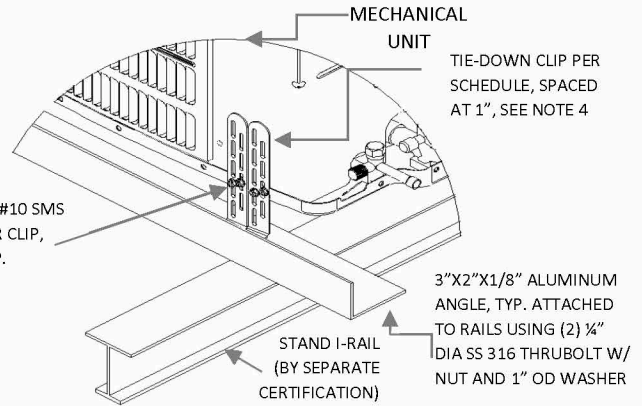
STRAP AND CLIP LAYOUT ROOF INSTALLATIONS

NOTES:

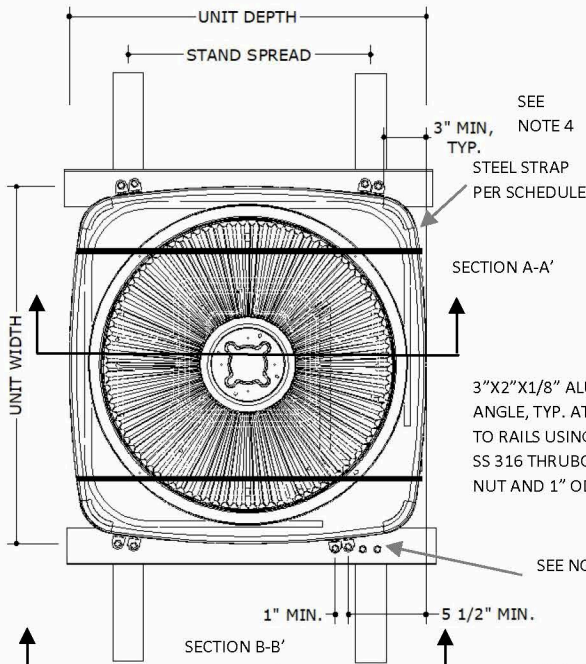
1. 3"x2"x1/8" ALUMINUM ANGLE SHALL BE 6061-T6 AND SHALL OVERHANG 8" MAXIMUM FROM STAND RAIL PER SIDE.
2. CONDENSER SHALL REST ON TOP OF THE STAND RAILS.
3. CLIPS MAY NOT COINCIDE WITH RAIL BELOW, ATTACHED ANGLE USING (2) 1/4" THURBOLT W/ NUT AND 1.0 OD WASHER.
4. TIE-DOWN CLIPS FOR CABINETS EQUAL OR SMALLER THAN 26" WIDE SHALL BE LOCATED 1" FROM EDGE MIN.



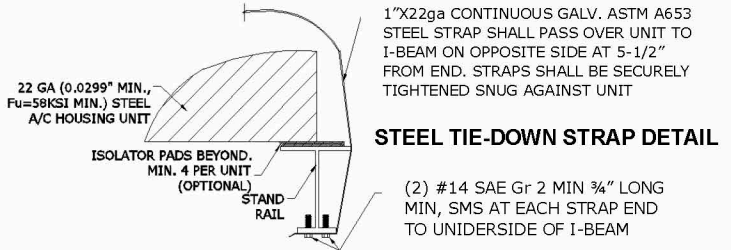
MECHANICAL UNIT ROOF MOUNTED ISOMETRIC



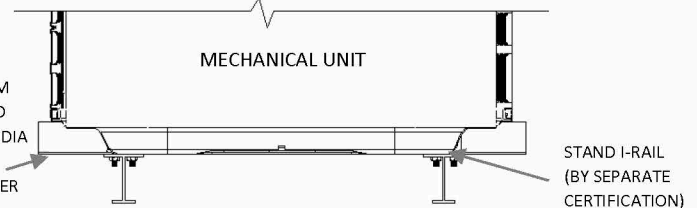
MECHANICAL UNIT TIE-DOWN DETAIL (SECTION C-C')



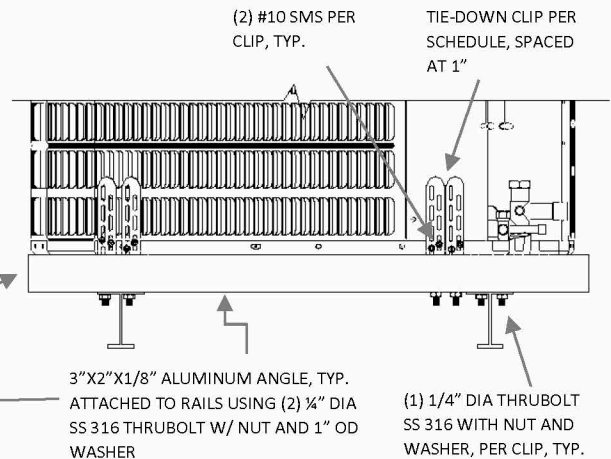
MECHANICAL UNIT ROOF MOUNTED PLAN VIEW



STEEL TIE-DOWN STRAP DETAIL



MECHANICAL UNIT RESTING ON STAND RAILS SIDE VIEW

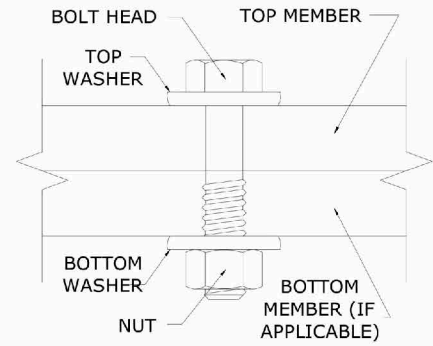


MECHANICAL UNIT RESTING ON STAND RAILS FRONT VIEW (SECTION B-B')

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 ecalci.io/glossary for additional abbreviation clarifications.



SAMPLE THRU-BOLT

SCALE: NTS SECTION VIEW

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
16-3146.2	Initial Issue	LAO	FLB	7/6/2016	20-34272	Add New Models & Template Update	MRT	EPR	1/20/2023
20-34272	2020 FBC Update	CCB	RWN	12/29/2020	20-34272	Add New Models	MRT	EPR	3/14/2023
20-34272	Add Models	MD	RS	7/12/22	23-69186	2023 FBC Update & Add New Models	MRT	ER/RN	01/15/204

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:

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

Rooftop (>15 ft MRH) Required Design Pressures:

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

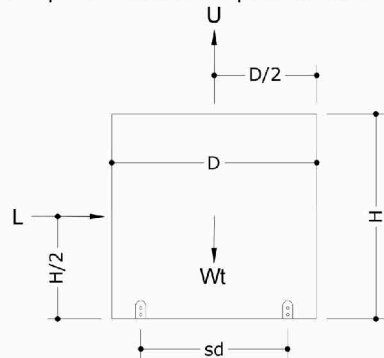
VISIT [ECALC.IO/FORCES](https://ecalc.io/forces)

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 in² / 144 ft²) = **1680 lb**
2. Uplift Force, U = P_{up} x W x D = (95 psf) x (48 in) x (36 in) x (1 in² / 144 ft²) = **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 in² / 144 ft²) = **1260 lb**
2. Uplift Force, U = P_{up} x W x D = (95 psf) x (48 in) x (36 in) x (1 in² / 144 ft²) = **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.