Evaluation Report

"Cardinal Ventilation"
Self-Flashing Series
with Hood/Dome Mounted Solar Panel
20 Watts & 30 Watts Solar Panels

Manufacturer

Attic Breeze, LLC.
1370 FM 116
Gatesville, Texas 76528
(877) 288-4234

for

Florida Product Approval

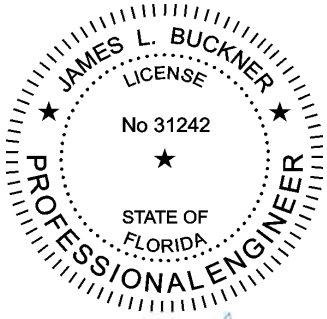
FL 13339.6 R6

Florida Building Code 6th Edition (2017)
Per Rule 61G20-3

Method:	**2 - B**
Category:	**Roofing**
Sub - Category:	**Roofing Accessories that are an Integral Part of the Roofing System**

Product Name:	*Cardinal Ventilation*
Product Description:	*Self-Flashing Series with Hood/Dome Mounted Solar Panel*

Facsimile of digital copy signed by
James L. Buckner, P.E.
Electronically signed and sealed documents sh
comply with the provisions of FAC Rule 61G15-



Prepared by:
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Florida Professional Engineer # 31242
Florida Evaluation ANE ID: 1916
Report No. 18-101-C-SPAF-Dir-S4W-ER
Date: 1 / 4 / 18

Contents:

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Manufacturer: **Attic Breeze, LLC.**

Product Name: **Cardinal Ventilation**

Product Category: Roofing

Product Sub-Category Roofing Accessories that are an Integral part of the Roofing System

Compliance Method: State Product Approval Rule 61G20-3.005 (2) (b)

Product Description: The Cardinal Ventilation is a self-flashing roof mounted, circular shaped fan system powered by a solar panel. The unit consists of a 14 inch diameter fan blades, enclosed in a self-flashing, corrosion resistant steel fan house base vent, with aluminum hood/dome, including a thermal switch, and a rodent guard. The solar panel is attached directly to the fan house unit hood/dome.

Product Assembly as Evaluated: Self-flashing solar attic fan with hoof/dome mounted solar panel

- Fan house base unit component mechanically attached to deck with wood screws.

Model Numbers:

No./Designation
CV-2000
CV-3000

Fan Unit Base Support:

Type:
Wood Deck
(Design of support system is outside the scope of this evaluation)

Description:

- 15/32” or greater Plywood, or
- Wood plank deck (based on minimum density/specific gravity of 0.42)

Roof Slope: Slope shall be in compliance with FBC, Chapter 15 based on the type of roof covering.

Performance: Allowable Wind Resistance:
* Positive Design Pressure: **+ 115 PSF**
* Negative Design Pressure: **- 115 PSF**

** Allowable design pressures for allowable stress design (ASD).*

Performance Standards:

The following test protocol was performed to demonstrate compliance with the intent of the code as this product does not specifically addressed the performance standard in the code.

- ASTM E330-02 – *Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors and by Uniform Static Air Pressure Difference*

Code Compliance:

The product described herein has demonstrated compliance with the Florida Building Code 6th Edition (2017), Section **1708.2**.

Evaluation Report Scope:

This product evaluation demonstrates compliance of this product with the structural wind load requirements of the Florida Building Code, as related to Florida Product Approval Rule 61G20-3.001.

Limits of Use:

- The Cardinal Ventilation including solar panel and electrical wiring shall be installed in compliance with Attic Breeze's installation instructions and in accordance with applicable Building Codes
- <u>Scope of "Limitations and Conditions of Use" for this evaluation:</u>
  This evaluation report for "Optional Statewide Approval" contains technical documentation, specifications and installation method(s) which include "Limitations and Conditions of Use" throughout the report in accordance with Rule 61G20-3.005. Per Rule 61G20-3.004, the Florida Building Commission is the authority to approve products under "Optional Statewide Approval".
- <u>Option for application outside "Limitations and Conditions of Use"</u>
  Rule 61G20-3.005(1)(e) allows engineering analysis for "project specific approval by the local authorities having jurisdiction in accordance with the alternate methods and materials authorized in the Code". Any modification of the product as evaluated in this report and approved by the Florida Building Commission is outside the scope of this evaluation and will be the responsibility of others.
- Refer to applicable building code section for ventilation requirements.
- Design of support system is outside the scope of this report.
- Fire Classification is outside the scope of Rule 61G20-3, and is therefore not included in this evaluation.
- This evaluation report does not evaluate the use of this product for use in the High Velocity Hurricane Zone code section. (Dade & Broward Counties)

Quality Assurance:

The manufacturer has demonstrated compliance of roof vent products in accordance with the Florida Building Code and Rule 61G20-3.005 (3) for manufacturing under a quality assurance program audited by an approved quality assurance entity through **Keystone Certification, Inc.** (FBC Organization #: QUA 1824)

Component(s) **Cardinal Ventilation**

Material Standards:

- Nominal Dimensions

Fan House Base:	26-3/4" Dia.
Fan House Hood/Dome:	23" Dia.
Solar Panel:	19-5/8" × 17-3/8" Nominal
Overall Height:	12-1/2" Nominal

- Fan House Base Material:

Material:	Steel
Thickness:	22 ga.
Yield Strength:	33 ksi Minimum
Corrosion Resistance:	Galvalume or Zincalume per ASTM A792 AZ 50 or in compliance with the FBC, Section 1507.4.3.

- Fan House Hood/Dome Material:

Material:	Aluminum
Thickness:	0.080"
Alloy:	1100-0 per ASTM B209
Corrosion Resistance:	Per FBC, Section 1507.4.3.

Fastener

Type:	Pancake Head Wood Screw
Size:	#10 × 1 in. Minimum
Standard:	Per ANSI/ASME B18.6.1
Corrosion Resistance:	Per FBC Section 1506.6

Installation:

Installation Method:
(Refer to Pages 5 and 6 of this evaluation report.)

"The Cardinal Ventilation" shall be installed in compliance with the installation method listed in this report. The installation method described herein is in accordance with the scope of this evaluation report. Refer to manufacturer's installation instructions as a supplemental guide for attachment.

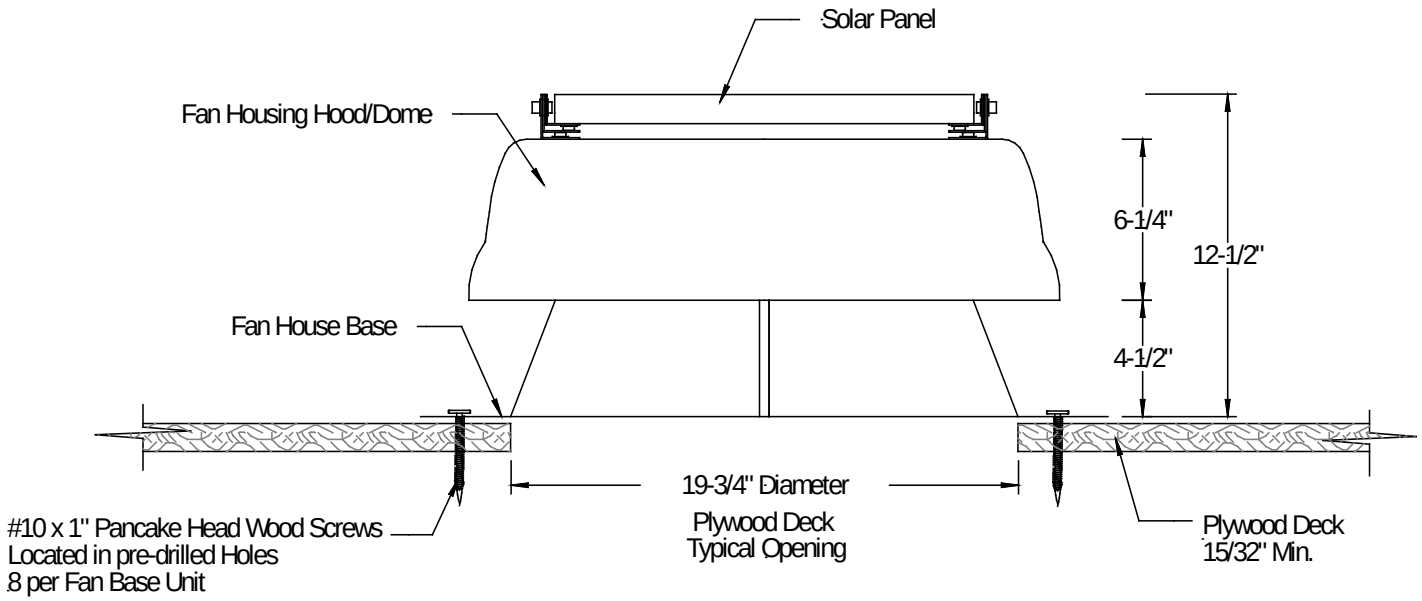
Evaluated Referenced Data:

1. ASTM E330-02 – Uniform Static Air Pressure Difference Test
   By Certified Testing Laboratories, Inc. (FBC Organization ID# TST 1577)
   Project #: CTLA 2002W, Dated: 11 / 20 / 09
2. Quality Assurance
   By Keystone Certification, Inc. (FBC Organization ID# QUA 1824)
   Attic Breeze, LLC. Licensee #740
3. Certification of Independence
   By James L. Buckner, P.E. @ CBUCK Engineering
   (FBC Organization # ANE 1916)
4. Engineering Analysis
   By CBUCK Engineering
   Report #C16-173, Dated: 12 / 6 / 16

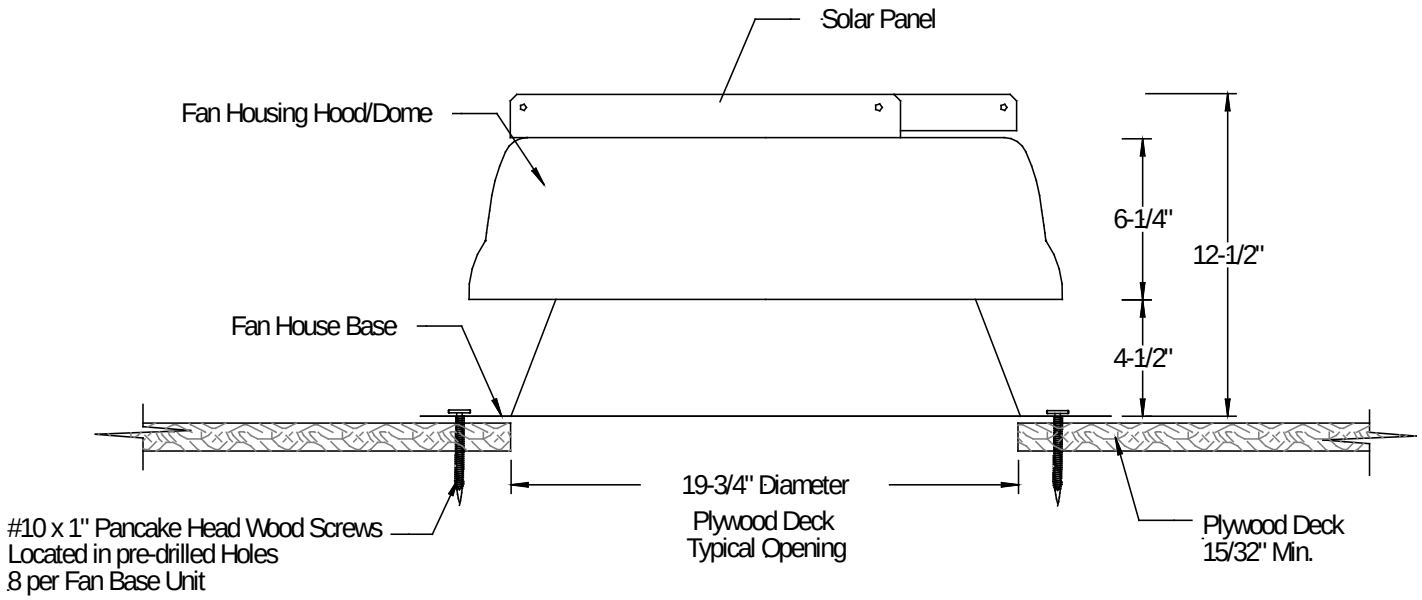
Installation Method

Attic Breeze, LLC.

Cardinal Ventilation Attachment Assembly

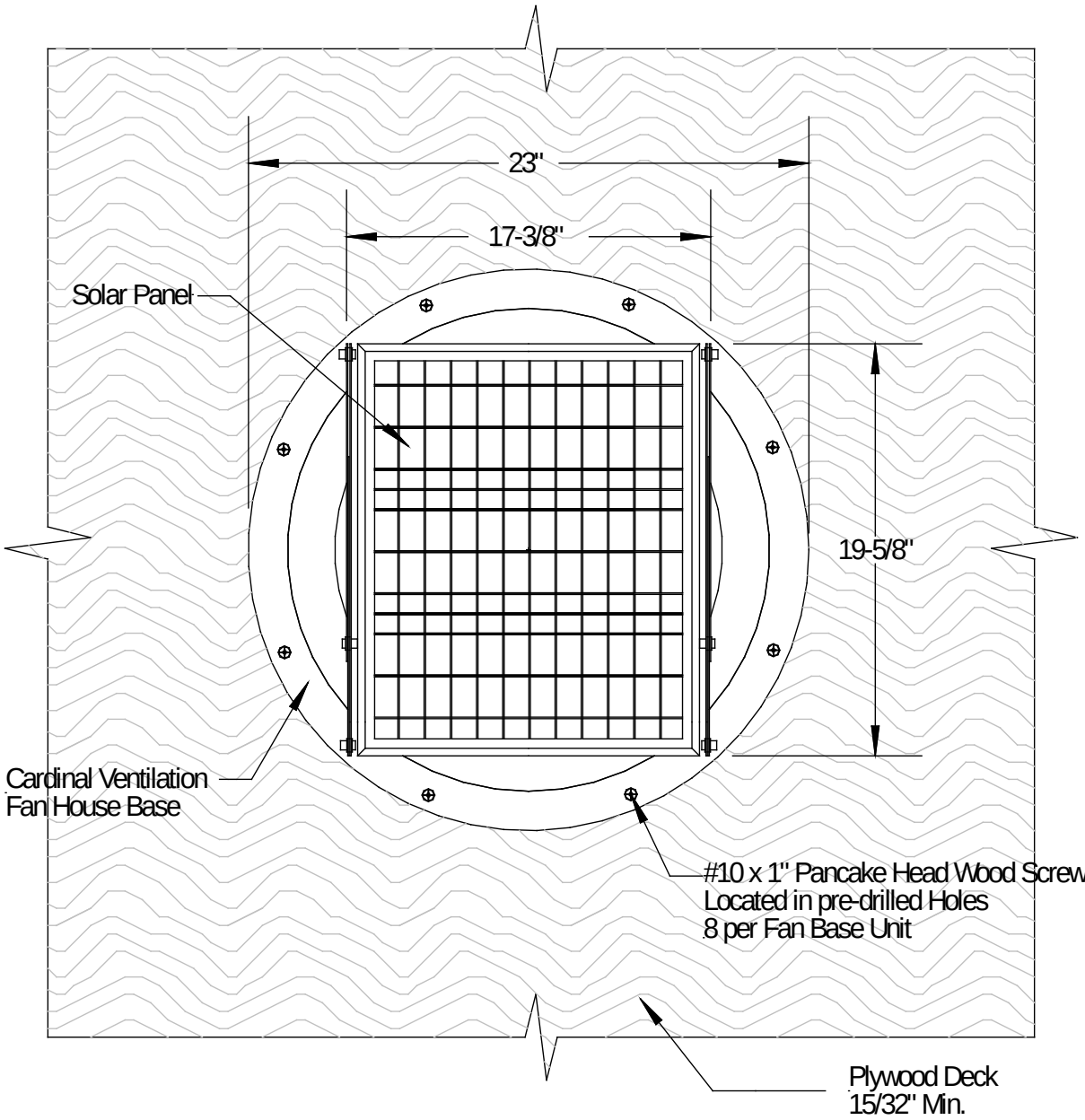


Assembly Front Section View



Assembly Side Section View

Installation Method
Attic Breeze, LLC.
Solar Attic Fan Attachment Assembly



Assembly Top Plan View