

## Product Evaluation

RV38 | 1022

Engineering Services Program

The following product has been evaluated for compliance with the wind loads specified in the International Residential Code (IRC) and the International Building Code (IBC).

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.

For more information, contact TDI Engineering Services Program at (800) 248-6032.

**Evaluation ID:** RV-38

**Effective Date:** October 1, 2022

**Re-evaluation Date:** April 2024

**Product Name:** Master Flow® Static, Power, and Turbine Roof Ventilators

**Manufacturer:** GAF  
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### General Description:

Ventilator Model	Ventilator Type
Master Flow® Wind Turbine Aluminum Internally Braced – 12"	Turbine Roof Ventilator
Master Flow® Wind Turbine Aluminum Internally Braced – 14"	Turbine Roof Ventilator
Master Flow® Wind Turbine Galvanized Internally Braced – 12"	Turbine Roof Ventilator
Master Flow® Power Attic Vent ERV4 - Roof Mount	Power Roof Ventilator
Master Flow® Power Attic Vent ERV4HT – Roof Mount	Power Roof Ventilator
Master Flow® Power Attic Vent ERV5 - Roof Mount	Power Roof Ventilator
Master Flow® Power Attic Vent ERV5HT – Roof Mount	Power Roof Ventilator
Master Flow® Power Attic Vent ERV6 - Roof Mount	Power Roof Ventilator
Master Flow® Power Attic Vent ERV6HT - Roof Mount	Power Roof Ventilator
Master Flow® High-Capacity Dome Vent (HCD144)	Static Roof Ventilator
Master Flow® Roof Louver SSB960 Metal Slant-Back (Aluminum)	Aluminum Roof Louver

**General Description (Continued):**

Ventilator Model	Ventilator Type
Master Flow® Roof Louver SSB960 Metal Slant-Back (Galvanized Steel)	Galvanized Roof Louver
Master Flow® Roof Louver RV50 Metal Round Throat (Aluminum)	Aluminum Roof Louver
Master Flow® Roof Louver RV 50 Metal Round Throat (Galvanized Steel)	Galvanized Roof Louver
Master Flow® Roof Louver R50 Metal Square Throat (Aluminum)	Aluminum Roof Louver
Master Flow® GreenMachine Solar-Powered Roof Vent (ERVSOLAR)	Power Roof Ventilator
Master Flow® GreenMachine Dual-Powered Roof Vent (ERVHYBRID)	Power Roof Ventilator
Master Flow® Wi-Fi Attic Vent - Roof Mount (ERV5SMT)	Power Roof Ventilator
Master Flow® Wi-Fi Attic Vent – Roof Mount (ERV5QCT)	Power Roof Ventilator
Master Flow® EZ Cool™ Plug-in Power Attic Vent - Roof Mount (EZCR1)	Power Roof Ventilator
Master Flow® EZ Cool™ Plug-in Power Attic Vent - Roof Mount (EZCQR1)	Power Roof Ventilator

**Master Flow® Wind Turbine Aluminum Internally Braced – 12"**

An internally braced turbine roof ventilator made of aluminum with an octagonal aluminum base. The base is 18" in width. The overall height of the assembly is 19-5/8".

**Master Flow® Wind Turbine Aluminum Internally Braced – 14"**

An internally braced turbine roof ventilator made of aluminum with an octagonal aluminum base. The base is 22" in width. The overall height of the assembly is 20-13/16".

**Master Flow® Wind Turbine Galvanized Internally Braced – 12"**

An internally braced turbine roof ventilator made of G-90 galvanized steel with an octagonal base. The base is 18" in width. The overall height is 19-5/8".

**Master Flow® Power Attic Vent ERV4 - Roof Mount, Master Flow® Power Attic Vent ERV4HT - Roof Mount, Master Flow® Power Attic Vent ERV5 - Roof Mount, Master Flow® Power Attic Vent ERV5HT - Roof Mount, Master Flow® Power Attic Vent ERV6 - Roof Mount, Master Flow® Power Attic Vent ERV6HT - Roof Mount**

A power roof ventilator with a 15" stack. The ventilator has a 25" x 25" base and is 8" in height. The flashing is 0.020" thick G-90 galvanized steel. The stack is 0.020" thick G-90 galvanized steel that is mechanically crimped. The hood is 0.020" thick G-90 galvanized steel and is 25" in diameter. There are four 0.032" thick G-90 galvanized steel hood brackets. The hood is secured to the hood bracket with one 1/4" x 3/4" screw per bracket. The individual models vary by different CFM ratings.

**Master Flow® High-Capacity Dome Vent (HCD144)**

A static roof ventilator with a 15" stack. The ventilator has a 25" x 25" base and is 8" in height. The flashing is 0.020" thick G-90 galvanized steel. The stack is 0.020" thick G-90 galvanized steel that is mechanically crimped. The hood is 0.020" thick G-90 galvanized steel and is 25" in diameter. There are four 0.032" thick G-90 galvanized steel hood brackets. The hood is secured to the hood bracket with one 1/4" x 3/4" screw per bracket

**Master Flow® Roof Louver SSB960 Metal Slant-Back (Aluminum)**

An aluminum roof louver with an embossed surface. The aluminum is 0.025" thick. The vent has a rectangular aluminum base that is 16" wide by 20-1/2" long. The aluminum hood dimensions are 11.52" wide by 15-1/4" long. The overall height is 4.9375".

**Master Flow® Roof Louver SSB960 Metal Slant-Back (Galvanized Steel)**

A galvanized steel roof louver with a smooth surface. The G-90 galvanized steel is 0.019" thick. The vent has a rectangular G-90 galvanized steel base that is 16" wide by 20-1/2" long. The G-90 galvanized steel hood dimensions are 11.52" wide by 15-1/4" long. The overall height is 4.9375".

**Master Flow® Roof Louver RV50 Metal Round Throat (Aluminum)**

An aluminum roof louver with a smooth surface. The aluminum base is 0.015" thick and the aluminum hood is 0.019" thick. The vent has a rectangular aluminum base that is 16-1/2" wide by 15" long. The aluminum hood dimensions are 12" wide by 11-1/2" long. The overall height is 3.85".

**Master Flow® Roof Louver RV50 Metal Round Throat (Galvanized Steel)**

A galvanized steel roof louver with a smooth surface. The G-90 galvanized steel is 0.019" thick. The vent has a rectangular G-90 galvanized steel base that is 16-1/2" wide by 15-1/2" long. The G-90 galvanized steel hood dimensions are 12" wide by 11-1/2" long. The overall height is 3.85".

**Master Flow® Roof Louver R50 Metal Square Throat (Aluminum)**

An aluminum roof louver with a smooth surface. The aluminum is 0.019" thick. The vent has a rectangular aluminum base that is 17.312" wide by 15.312" long. The aluminum hood dimensions are 12" wide by 11-1/2" long. The overall height is 3.85".

**Master Flow® GreenMachine™ Solar-Powered Roof Vent (ERVSOLAR)**

A solar powered roof ventilator with a 15" stack. The ventilator has a 25" x 25" base and is 8" in height. The flashing is 0.020" thick G-90 galvanized steel. The stack is 0.020" thick G-90 galvanized steel that is mechanically crimped. The hood is 0.020" thick G-90 galvanized steel and is 25" in diameter. There are four 0.032" thick G-90 galvanized steel hood brackets. The hood is secured to the hood bracket with one 1/4" x 3/4" screw per bracket.

**Master Flow® GreenMachine™ Dual-Powered Roof Vent (ERVHYBRID)**

A solar and conventional powered roof ventilator with a 15" stack. The ventilator has a 25" x 25" base and is 8" in height. The flashing is 0.020" thick G-90 galvanized steel. The stack is 0.020" thick G-90 galvanized steel that is mechanically crimped. The hood is 0.020" thick G-90 galvanized steel and is 25" in diameter. There are four 0.032" thick G-90 galvanized steel hood brackets. The hood is secured to the hood bracket with one 1/4" x 3/4" screw per bracket.

**Master Flow® Wi-Fi Attic Vent – Roof Mount (ERV5SMT), Master Flow® Wi-Fi Attic Vent – Roof Mount (ERV5QCT), Master Flow® EZ Cool™ Plug-in Power Attic Vent – Roof Mount (EZCR1), Master Flow® EZ Cool™ Plug-in Power Attic Vent – Roof Mount (EZCQR1)**

A power roof ventilator with a 15" stack. The ventilator has a 25" x 25" base and is 8" in height. The flashing is 0.020" thick G-90 galvanized steel. The stack is 0.020" thick G-90 galvanized steel that is mechanically crimped. The hood is 0.020" thick G-90 galvanized steel and is 25" in diameter. There are four 0.032" thick G-90 galvanized steel hood brackets. The hood is secured to the hood bracket with one 1/4" x 3/4" screw per bracket.

**Design Pressures:**

Ventilator Model	Design Pressure
Master Flow® Wind Turbine Aluminum Internally Braced – 12"	-200 psf
Master Flow® Wind Turbine Aluminum Internally Braced – 14"	-160 psf
Master Flow® Wind Turbine Galvanized Internally Braced – 12"	-200 psf
Master Flow® Power Attic Vent ERV4 - Roof Mount	-165 psf
Master Flow® Power Attic Vent ERV4HT – Roof Mount	-165 psf
Master Flow® Power Attic Vent ERV5 - Roof Mount	-165 psf
Master Flow® Power Attic Vent ERV5HT – Roof Mount	-165 psf
Master Flow® Power Attic Vent ERV6 - Roof Mount	-165 psf
Master Flow® Power Attic Vent ERV6HT – Roof Mount	-165 psf
Master Flow® High-Capacity Dome Vent (HCD144)	-165 psf
Master Flow® Roof Louver SSB960 Metal Slant-Back (Aluminum)	-330 psf
Master Flow® Roof Louver SSB960 Metal Slant-Back (Galvanized Steel)	-360 psf
Master Flow® Roof Louver RV50 Metal Round Throat (Aluminum)	-360 psf
Master Flow® Roof Louver RV50 Metal Round Throat (Galvanized Steel)	-330 psf
Master Flow® Roof Louver R50 Metal Square Throat (Aluminum)	-300 psf
Master Flow® GreenMachine Solar-Powered Roof Vent (ERVSOLAR)	-195 psf
Master Flow® GreenMachine Dual-Powered Roof Vent (ERVHYBRID)	-195 psf
Master Flow® Wi-Fi Attic Vent - Roof Mount (ERV5SMT)	-165 psf
Master Flow® Wi-Fi Attic Vent – Roof Mount (ERV5QCT)	-165 psf
Master Flow® EZ Cool™ Plug-in Power Attic Vent - Roof Mount (EZCR1)	-165 psf
Master Flow® EZ Cool™ Plug-in Power Attic Vent - Roof Mount (EZCQR1)	-165 psf

**Roof Slope:** The minimum roof slope is 2:12. The maximum roof slope is 12:12.

**Installation:**

**General Installation Instructions:**

All requirements specified in the IRC and the IBC must be satisfied and the manufacturer's installation instructions followed, unless otherwise specified by this product evaluation.

**Master Flow® Wind Turbine Aluminum Internally Braced – 12"; Master Flow® Wind Turbine Aluminum Internally Braced – 14"; Master Flow® Wind Turbine Galvanized Internally Braced – 12"**

**Roof Deck:** The roof deck must consist of wood structural panels (plywood or OSB) with a minimum thickness of 7/16".

**Installation:** Install the vent to the roof deck by carefully sliding the upper half of the flashing up the roof beneath the shingles that were previously rolled back until the base is centered over the 12" cutout for the Master Flow® Wind Turbine Aluminum Internally Braced - 12" and the Master Flow® Wind Turbine Galvanized Internally Braced - 12" and a 14" cutout for the Master Flow® Wind Turbine Aluminum-Internally Braced - 14". Roll back the shingles where necessary to secure the vent to the roof deck. Apply silicone caulk between each layer of shingles at the cut edge of the vent openings and between the vent flanges and the shingle surface.

The vents are to be secured to the roof deck with 24, minimum 11-gauge ring shank roofing nails (1/8" shank diameter, 3/8" diameter head, 1-1/4" long). The fasteners must be located 4" on center, located approximately 1" from the outside edge of the flange, and 4" on center, located approximately 1" from the stack. Coat all seams, screws, rivets, and nail heads with silicone caulk.

**Master Flow® Power Attic Vent ERV4 - Roof Mount, Master Flow® Power Attic Vent ERV4HT - Roof Mount, Master Flow® Power Attic Vent ERV5 - Roof Mount, Master Flow® Power Attic Vent ERV5HT - Roof Mount, Master Flow® Power Attic Vent ERV6 - Roof Mount, Master Flow® Power Attic Vent ERV6HT - Roof Mount**

**Roof Deck:** The roof deck must consist of wood structural panels (plywood or OSB) with a minimum thickness of 7/16".

**Installation:** Roll back shingles and remove all nails. Separate each layer of shingles around the perimeter of the 15" diameter roof hole. Insert the vent flashing under the upper shingles, trim if necessary. Apply silicone caulk between each layer of shingles at the cut edge of the vent openings and between the vent flanges and the shingle surface.

The vent flashing is secured to the deck with 32, minimum 11-gauge ring shank roofing nails (1/8" shank diameter, 3/8" diameter head, 1-1/4" long). The fasteners, placed approximately 1" from the outer edge of the flashing, are to be located approximately 1" from each corner and approximately 4" on center along the perimeter of the flashing and 6" on center, located approximately 1" from the stack. Coat all seams, screws, rivets, and nail heads with silicone caulk.

**Master Flow® High-Capacity Dome Vent (HCD144)**

**Roof Deck:** The roof deck must consist of wood structural panels (plywood or OSB) with a minimum thickness of 7/16".

**Installation:** Roll back shingles and remove all nails. Separate each layer of shingles around the perimeter of the 15" diameter roof hole. Insert the vent flashing under the upper shingles, trim if

necessary. Apply silicone caulk between each layer of shingles at the cut edge of the vent openings and between the vent flanges and the shingle surface. The vent flashing is secured to the deck with 32, minimum 11-gauge ring shank roofing nails (1/8" shank diameter, 3/8" diameter head, 1-1/4" long). The fasteners, placed approximately 1" from the outer edge of the flashing, are to be located approximately 1" from each corner and approximately 4" on center along the perimeter of the flashing and 6" on center, located approximately 1" from the stack. Coat all seams, screws, rivets, and nail heads with silicone caulk.

**Master Flow® Roof Louver SSB960 Metal Slant-Back (Aluminum); Master Flow® Roof Louver SSB960 Metal Slant-Back (Galvanized Steel)**

**Roof Deck:** The roof deck must consist of wood structural panels (plywood or OSB) with a minimum thickness of 7/16".

**Installation:** Separate each layer of shingles around the perimeter of the 10" diameter roof hole. Carefully slide the vent under the upper shingles, with the non-louvered side facing the roof peak.

The vent must be fastened to the roof deck with minimum 18, 12-gauge ring shank roofing nails (1/8" shank diameter, 3/8" diameter head, 1-1/4" long). The fasteners must be placed 1" in from each corner and 4" on center along all four sides. Coat all seams, screws, rivets, and nail heads with silicone caulk.

**Master Flow® Roof Louver RV50 Metal Round Throat (Aluminum)**

**Roof Deck:** The roof deck must consist of wood structural panels (plywood or OSB) with a minimum thickness of 7/16".

**Installation:** Separate each layer of shingles around the perimeter of the 9" diameter roof hole. Carefully slide the vent under the upper shingles, with the non-louvered side facing the roof peak.

The vent must be fastened to the roof deck with minimum 16, 12-gauge ring shank roofing nails (1/8" shank diameter, 3/8" diameter head, 1-1/4" long). The fasteners must be placed 1" in from each corner and 3-5/8" to 4" on center along all four sides of the vent flange. Coat all seams, screws, rivets, and nail heads with silicone caulk.

**Master Flow® Roof Louver RV50 Metal Round Throat (Galvanized Steel)**

**Roof Deck:** The roof deck must consist of wood structural panels (plywood or OSB) with a minimum thickness of 7/16".

**Installation:** Separate each layer of shingles around the perimeter of the 9" diameter roof hole. Carefully slide the vent under the upper shingles, with the non-louvered side facing the roof peak. The vent must be fastened to the roof deck with minimum 16, 12-gauge ring shank roofing nails (1/8" shank diameter, 3/8" diameter head, 1-1/4" long). The fasteners must be placed 1" in from

each corner and 3-11/32" to 3-9/16" on center along all four sides of the vent flange. Coat all seams, screws, rivets, and nail heads with silicone caulk.

**Master Flow® Roof Louver R50 Metal Square Throat (Aluminum)**

**Roof Deck:** The roof deck must consist of wood structural panels (plywood or OSB) with a minimum thickness of 7/16".

**Installation:** Separate each layer of shingles around the perimeter of the 9" x 9" roof hole. Carefully slide the vent under the upper shingles, with the non-louvered side facing the roof peak.

The vent must be fastened to the roof deck with minimum 16, 12-gauge ring shank roofing nails (1/8" shank diameter, 3/8" diameter head, 1-1/4" long). The fasteners must be placed 1" in from each corner and 3-5/16" to 3-13/16" on center along all four sides of the vent flange. Coat all seams, screws, rivets, and nail heads with silicone caulk.

**Master Flow® GreenMachine™ Solar-Powered Roof Vent; Master Flow® GreenMachine™ Dual-Powered Roof Vent**

**Roof Deck:** The roof deck must consist of wood structural panels (plywood or OSB) with a minimum thickness of 7/16".

**Installation:** Roll back shingles and remove all nails. Separate each layer of shingles around the perimeter of the 15" diameter roof hole. Insert the vent flashing under the upper shingles, trim if necessary. Apply silicone caulk between each layer of shingles at the cut edge of the vent openings and between the vent flanges and the shingle surface.

The vent flashing is secured to the deck with 20, minimum 12-gauge ring shank roofing nails (1/8" shank diameter, 3/8" diameter head, 1-1/4" long). The fasteners are to be placed 1" in from each corner and approximately 5-3/4" on center along all four sides. Coat all seams, screws, rivets, and nail heads with silicone caulk.

**Master Flow® Wi-Fi Attic Vent – Roof Mount (ERV5SMT), Master Flow® Wi-Fi Attic Vent – Roof Mount (ERV5QCT), Master Flow® EZ Cool™ Plug-in Power Attic Vent – Roof Mount (EZCR1), Master Flow® EZ Cool™ Plug-in Power Attic Vent – Roof Mount (EZQR1)**

**Roof Deck:** The roof deck must consist of wood structural panels (plywood or OSB) with a minimum thickness of 7/16".

**Installation:** Roll back shingles and remove all nails. Separate each layer of shingles around the perimeter of the 15" diameter roof hole. Insert the vent flashing under the upper shingles, trim if necessary. Apply silicone caulk between each layer of shingles at the cut edge of the vent openings and between the vent flanges and the shingle surface.

The vent flashing is secured to the deck with 32, minimum 11-gauge ring shank roofing nails (1/8" shank diameter, 3/8" diameter head, 1-1/4" long). The fasteners, placed approximately 1" from

the outer edge of the flashing, are to be located approximately 1" from each corner and approximately 4" on center along the perimeter of the flashing and 6" on center, located approximately 1" from the stack. Coat all seams, screws, rivets, and nail heads with silicone caulk.

**Note:** Keep the manufacturer's installation instructions available on the job site during installation. Use corrosion resistant fasteners as specified in the IRC and the IBC.