EZSoffit Vent™ - EZSV14

Frequently asked questions[1]

1. Does venting a fan out the soffit have advantages over roof or wall locations?
YES. Given that most bathrooms are located adjacent to outside walls; the soffit may provide a shorter duct run which is always good for air flow and can help reduce total installation costs. In cold climates the horizontal duct work would now be buried in attic insulation which helps reduce condensation potential by keeping the entire system warmer. Another benefit is that roof and wall discharge locations require water intrusion protection against bulk water entry because of their locations on the building. They need to be integrated into the code required weather resistant barrier. This flashing material & labor adds to the cost. Venting at the soffit does not require water intrusion protection further reducing total installation costs.

2. Are there any Code restrictions or requirements for venting a bath fan out the soffit?
It is always recommended that you contact the authority having jurisdiction, for the code applicable to your project. Actual building codes can vary substantially because for any given State, County, City and/or municipality their code may be a mix of adopted versions of a National Model Code with or without regional and/or local amendments.

3. Some soffit fittings don't work very well in modern designs using smaller overhangs. Will this one fit?
YES. This fitting was specifically designed to fit in even the most compact of enclosed overhangs where horizontal soffits are used. The vast majority of soffit fittings have the duct connection at the top and this can cause interference between the ducting and roof sheeting when used on narrow soffits and low pitched roofs. The innovative mounting system and side duct connection of the EZSoffit Vent make it an ideal solution for narrow soffits and low pitch roofs. This unit will fit even in the smallest of enclosed overhangs using horizontal soffits, as long as the following minimum overhang conditions are available:

- Minimum 4/12 pitch roof
- Minimum 12" wide soffit (actual 10.5" fascia to building)
- Minimum 2 x 6 fascia (vertical height)

This fitting was designed for these conditions giving you a soffit fitting option that covers just about every modern horizontal soffit design. It can also be used with engineered wood fascia & soffit finishing systems as long as the minimum conditions above are met.

4. This unit is designed for pre-soffit installation. Who is responsible for installing this unit?
The answer lies within one of the primary design goals, that being; giving one person the ability to complete the fan installation and all ducting in one trip. Without pre-soffit termination installation, one end of the ducting cannot be completed by the fan installer. This leaves either a second trip for the fan installer, or in most cases the ducting is left to the soffit contractor to complete. Neither of these choices ensures optimal fan performance and a second trip by the fan installer is certainly not cost effective. A primary design goal was to provide the ability for the installing fan contractor to complete the ducting in one trip with no wasted material or time. This could be the electrical contractor, the HVAC contractor or in some cases the building contractor.

One of the major performance problems with typical soffit termination fittings is that the fan installer cannot complete the ducting because the fitting itself needs to be attached to the soffit which is typically not there yet when the fan is installed. This usually results in excess duct length that is not always cut to fit by the soffit installer and is then stuffed up into the overhang. Any excess ducting will impact performance especially if it is compressed and/or collapsed as the fitting is being pushed into position and secured to the soffit.

5. Do I have to worry about any moist exhaust air entering the attic through vented soffit material?
NO. Not with the EZSoffit Vent™ due to its built in air-tight back draft damper. However, this is a valid concern in cold climates with most soffit fittings on the market today. Extensive field investigation[2] into attic moisture problems associated with bath fan venting out the soffit, find that it is due to the lack of an air-tight damper somewhere within the system that causes the problem, not the use of vented soffit material.

As we know warm air rises, and with a fan in the ceiling it is basically a small chimney during the heating season. There is warm moist air continually leaving the building through the ducting system under natural conditions we call the stack effect, again; because in most cases there is no intentional shut off point either near the fan or at the soffit termination fitting. Once at the outside, this warm moist air may turn upward and try to enter the attic through the vented soffit material. This moist air once outside the fitting may also travel along the side of the building slightly frosting the face of the soffit material providing an unsightly appearance.

The EZSoffit Vent built in air-tight damper completely shuts off unwanted moist discharge air during periods when the fan is not running, eliminating the current market objections to venting fans at the soffit especially when using vented soffit materials. When the fan is running, the warm moist air being exhausted is directed away from the building and downward at a 45 degree angle significantly reducing the potential for any attic entry even when using vented soffit materials.

6. Can this unit help solve cold climate call backs regarding cold air entering the home through the bath fan?
YES. A cold bathroom is a very common complaint, and once again it can be traced to any exhaust fan system that does not have an integrated air-tight back draft damper. It's common to have cold air entering one bath fan and falling into the room to provide make up air for another, especially in newer well sealed homes. This situation can significantly impact comfort levels within a bathroom. In many cases, aftermarket in- line dampers are added to try and solve this problem. This approach is not only expensive but the fan air flow will be negatively impacted when the fan is running because these in-line dampers are restrictive. The EZSoffit Vent was designed to cost effectively address this very issue and by having the damper at the exterior of the ducting system, it helps keep the entire ducting system warmer.

7. Does the built in air-tight damper provide other benefits that are valuable in all building climates?
YES. The damper takes the place of the fine screen or wire mesh that is typically used for insect protection in many termination fittings. In fact the solid damper provides better protection because when closed it completely shuts off all entry potential. A very common problem with fine screens and wires is that they accumulate house particles; dust and hair, along with tissue fibers, and can eventually plug up severely restricting air flow.

In addition; where homes are Blower Door tested for quality assurance, code, or especially for HERS Index, the damper reduces (improves) the tested leakage value. Resnet® testing procedures do not allow for sealing off intermittent ventilation terminations. Having the built in damper improves testing values and may improve the HERS Index for a given home. Builders getting their homes HERS qualified will benefit from using this fitting.

8. This fitting design sandwiches the soffit material between the grille and the mounting system. What soffit thickness can be used?
To ensure that the grille shoulder inserts far enough into the vent body the recommended soffit thickness range is between 5/16" minimum to a maximum of ½". The grille retaining screw provided with the unit is a #8 x 1-1/4" long. This length was based on these standard soffit dimensions. You could use this unit on materials up to ¾" thick but you may need a longer screw.

9. Can this unit be used as a standalone intake device or in pairs with an HRV or ERV?
YES. This unit was designed primarily for exhaust but by removing the damper it could be used as an intake. The damper is designed for easy removal and the discharge grille has an inset step designed in, that can accept an insect screen or wire if needed. (screen not provided) When used in pairs, this unique compact fitting design is ideal for the venting of modern HRVs and ERVs at the soffit location making it an ideal solution for slab on grade construction.

10. Can the discharge grille be painted or is it available in other colors?
YES. It can be painted using paint appropriate for Polypropylene material. The grille surface is lightly textured to help with paint adhesion. We recommend a flat or satin finish to blend in with the soffit finish. Given that the discharge grille itself does not protrude down below the soffit, we chose the current white color as it provides the same aesthetics as a trim ring on recessed can lights that are frequently mounted in the soffit area.
Note: Custom colors in quantity can be special ordered. Contact Panasonic for details.

11. Some fans have 6" duct connections or an option for 6". Can this 4" unit be used with 6" flex ducting?
YES. This 4" fitting was designed for bath fans up to and including 110 cfm using 4"ducting, but 6" ducting can certainly be used along with any required adapters. Using 6" ducting where convoluted and/or long duct runs are inevitable, will provide a significant benefit by reducing system total 'static' pressure which is always good for airflow. When using 6" ducting, there is only a small pressure drop associated with reducing back to 4" to connect to this fitting. When using 6" ducting it is recommended that you try and get the 6" over the outside wall top plate and just into the overhang. From there use a 6 x4 reducer combined with a 4" 90 degree elbow. Rotate the connection stub of the EZSoffit Vent so it's parallel to the fascia. This allows the 90 degree elbow to go right onto the fitting. Be sure to fully insulate any ductwork that's outside in the overhang. In this situation if using insulated flex duct with metal fittings, you would need to insulate the metal fittings. This can be done by cutting the flex duct long enough initially to provide coverage and then trim the inner air connection to length. Use the excess insulation to insulate metal fittings!

12. I see this product being shown as Home Ventilation Institute (HVI) certified. Is it actually HVI certified and what does this mean for me?
YES. This unit is HVI certified and is the Industry's first ever in HVI Section 2; for duct termination fittings. Panasonic was instrumental in the establishment of a duct termination category and this clearly demonstrates Panasonic's commitment to 'INSTALLED PERFORMANCE'. As with other air distribution systems, all components either help or hinder air flow. Up until this time only fans were certified so that you could try and design a system and manage expectations, but without knowing the impact of other system components like duct work and fittings, actual system function is difficult to predict. This is why we find so many tested bath fan systems delivering much lower air flows than expected.

Bath fan systems are a very important part of managing bathroom moisture levels and overall Indoor Air Quality. Having the ability to reliably design, install and commission a system requires we fully understand the impact of individual components and the installation process itself. This innovative Professional grade soffit termination installation system incorporates features that not only improve airflow but help reduce duct installation challenges currently experienced with the available selection of soffit fittings. Using the HVI specs for the fan and well as for this termination fitting, puts you in a better competitive position to deliver optimum air flow, improving customer satisfaction and reducing call backs.

Footnotes:
1. These questions and answers are specifically geared towards venting a bath fan at the soffit but in many may address other discharge locations
2. Research conducted by Home Building Technology Services, LLC Kaukauna WI