Keystone Diffusers

Aspire Laminar Flow Diffusers, Arc Radial Flow Diffusers & Krown Fan Filter Units

KEYSTONE
Clean Air Solutions

INSTALLATION + MOUNTING MANUAL

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Product Overview

Installation Instructions

Before You Start

- Inspect all cartons and boxes for flaws and shipping damage.
  - If anything is discovered to be damaged, contact the shipping company and file a freight claim.
- Ensure all tools (see required tools/parts list) are on site and ready for use.
- Install ductwork prior to diffuser installation.
- A minimum of two (2) people will be required to install this product.
- Filter Information
  - Ensure that all HEPA/ULPA filters are stored in a clean, dry location in a vertical position, as labeled on the carton. Do not open the HEPA/ULPA filters until they are ready to be installed in the diffuser. All construction in the space should be complete, the site and upstream air should be clean so as not to unnecessarily load the filter.
  - Ensure that both the space and ductwork is clean, free of debris, and ready for operation prior to installation of filter.

IMPORTANT NOTE: Extreme caution should be taken to avoid contact with filter media. Touching filter media may result in filter failure. Damage to filters can occur during installation or during leak qualification testing. The filters supplied by Keystone have been 100% tested and certified by the manufacturer to be free of defects and leaks. Keystone cannot accept responsibility for damage that occurs after shipment, whether through transit, handling or installation, and will not replace filters under Keystone standard warranty.

Required Tools/Parts

To be supplied by contractor

- Cordless drill/impact (as needed)
- #8 self-tapping screws (Direct Mount only)
- Screwdriver bit(s) to suit self-tapping screws (Direct Mount only)
- Damp Cloth(s) (for cleaning)
- Utility Knife
- Pliers with wire cutter
- Tape Measure
- Pre-stressed 12 ga. Suspension wire (or approved alternative) with necessary equipment to hang wire (T-Bar Mounting and Apex Cleanroom Ceilings only)

Keystone Diffusers | Product Overview

Getting Started

Step 1: Remove diffuser from shipping carton and inspect for any damage. If product is found to be damaged please contact your local Price Representative.

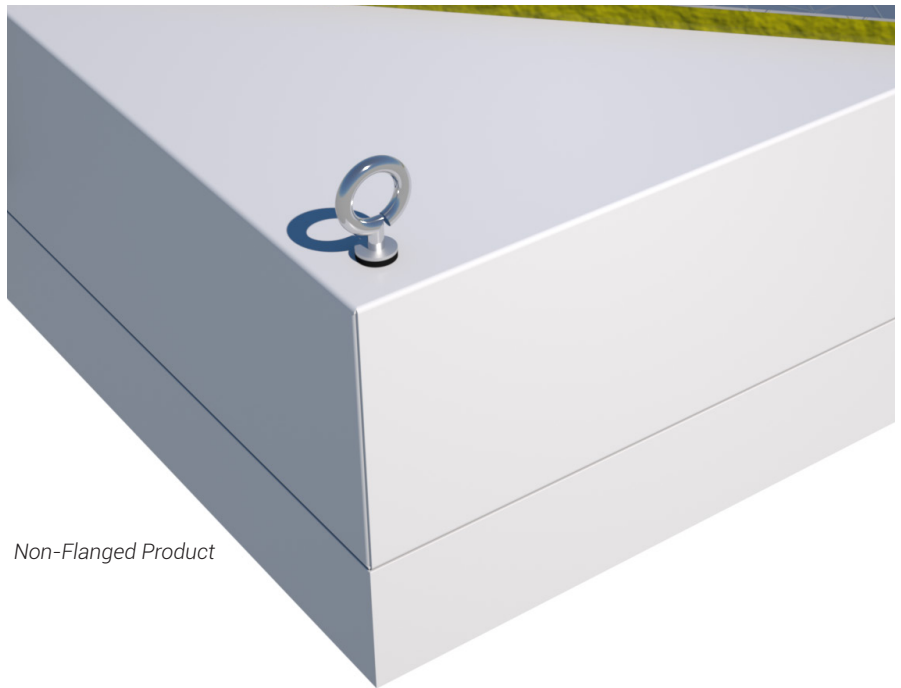**Step 2:** Determine if the diffuser construction is the flanged or the non-flanged style. Typically, non-filtered diffusers have a flange around the face of the unit, and filtered diffusers do not (Figure 1).

Step 3: For T-bar mounting continue to the "T-Bar Mounting" section of this manual, or for surface mounting continue to the "Surface Mounting" section of this manual.

Figure 1: Flanged Product vs. Non-Flanged Product

Flanged Product

Non-Flanged Product

T-Bar Mounting

Step 4: Ensure product size is consistent with grid module size.

Step 5: Lay the diffuser on the T-bar so that all four sides are resting evenly on the grid. Use shims to center diffuser if required (Figures 2 & 3).

Step 6: Secure the diffuser with hanger wire at all four corners, or other field-approved support method.

Figure 2: Lay the Diffuser on the T-Bar to Mount

Figure 3: T-Bar Mounting (Cutaway)

Keystone Diffusers | Installation & Mounting Instructions

Surface Mounting

Step 4: If the diffuser contains a flange, it can be installed either directly into the ceiling opening or through the use of a mounting frame (Apex Cleanroom Ceiling). If the diffuser does not contain a flange, a mounting frame is required. Please continue to either the Direct Mount or Apex Cleanroom Ceiling section:

Direct Mount (Flanged Diffusers only)

Step 5: Create a framed ceiling opening which is consistent with the opening size listed in the product submittal. Typically this will be nominal size less 13/16". Please ensure framing can support the weight of the diffuser.
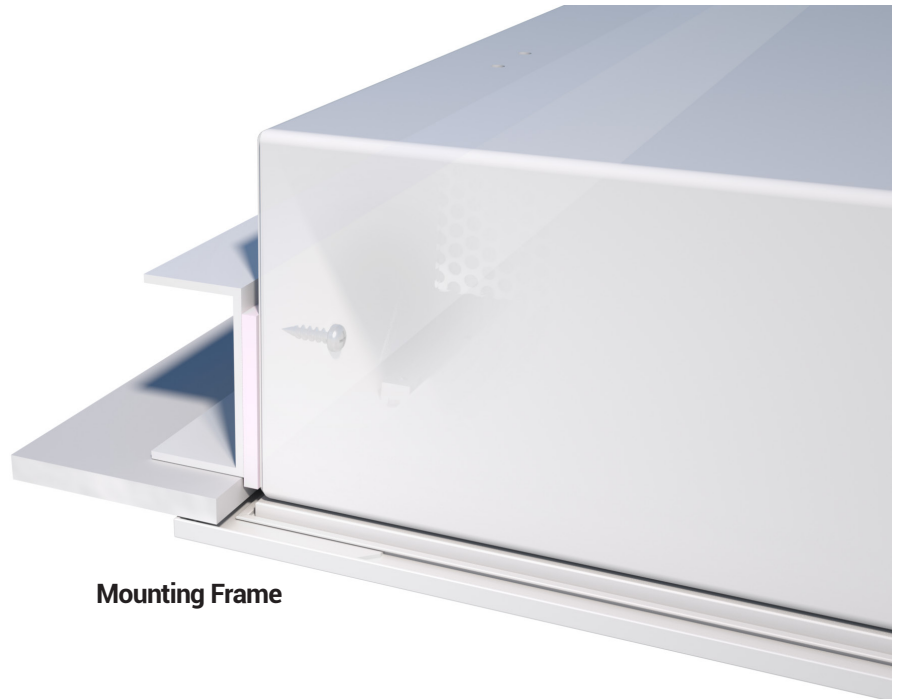
Step 6: Remove the diffuser facing by disengaging the quick-release (1/4 turn) fasteners.

Step 7: Raise the diffuser into the opening and fasten securely to framing using self-tapping screws or other field-approved hardware as shown in Figure 4. The diffuser can be centered in the opening through the use of shims or spacers (provided by others).

Step 8: Seal at interface between diffuser frame and ceiling as needed (Figure 4).

Step 9: Wipe internal plenum surfaces clean and re-secure the diffuser face by engaging the quick-release (1/4 turn) fasteners.

Figure 4: Install the Flanged Diffuser in the Opening and Fasten Securely

Mounting Frame

Apex Cleanroom Ceiling Mounting Frame

Step 5: Create ceiling opening consistent with the size of the mounting frame. Refer to the product submittal for the appropriate opening size.

Step 6: The Apex Mounting Frame can be fastened directly to framing or suspended from hanger wires using the pre-punched hanger holes.

Step 7A: To install the Apex Mounting Frame using hanger wire, secure hanger wires through the pre-punched hanger holes in frame. At least one wire should be used near each corner of the frame (Figure 5).

Step 7B: To fasten Apex Mounting Frame directly to framing, screw through pre-punched hanger holes into framing, or create pilot holes to use alternative fastener locations. Fasteners provided by others (Figures 6 & 7).

Step 8: Lay diffuser into mounting frame and secure using hanger wires (or other field approved support method). Refer to T-bar installation section for further information on lay-in installations.

Step 9: Wipe all surfaces clean and ensure adequate seal is made at ceiling interface(s).

Step 10: If filters are to be installed, please refer to the Roomside Replaceable Filter Quick Start Guide for further information.

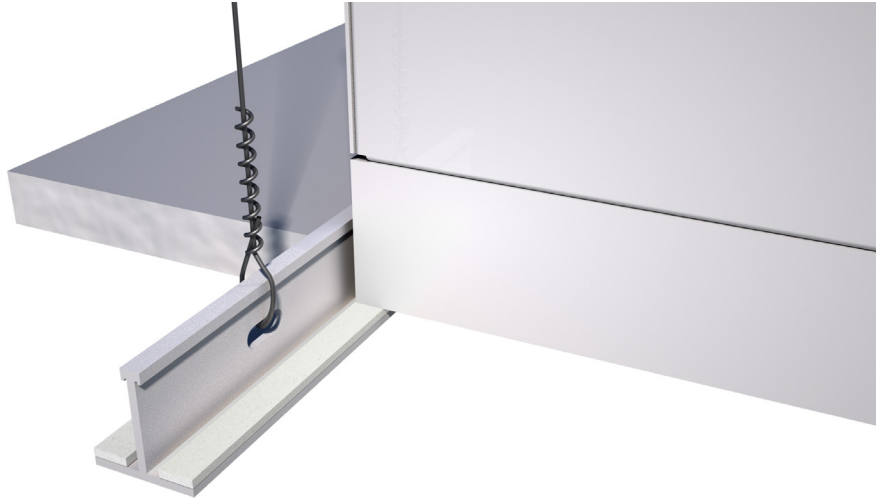**Figure 5: Apex Mounting Frame Installed Using Hanger Wires**

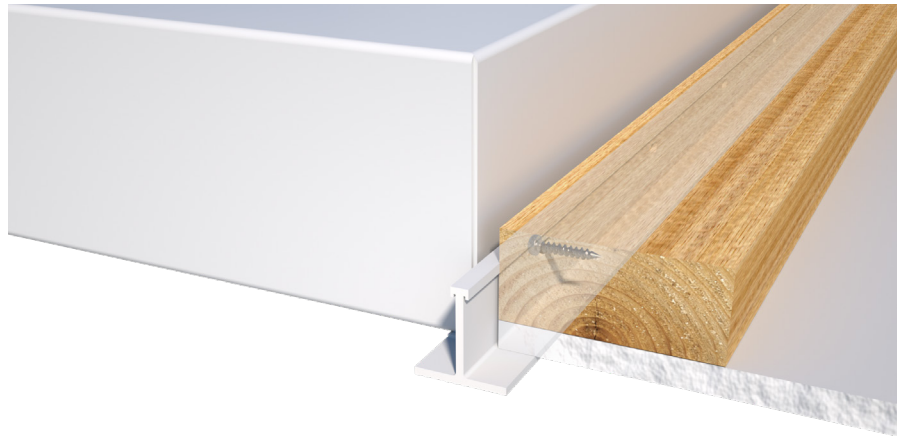**Figure 6: Apex Mounting Frame Screw-In Installation**

Figure 7: Apex Mounting Frame Screw-In Installation (Side View)

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