



Hospital, Pharmaceutical and Clean Room Products



laminar flow diffuser



Variable volume air terminal



Air distribution terminal



Surgery room grilles



Duct sound attenuator



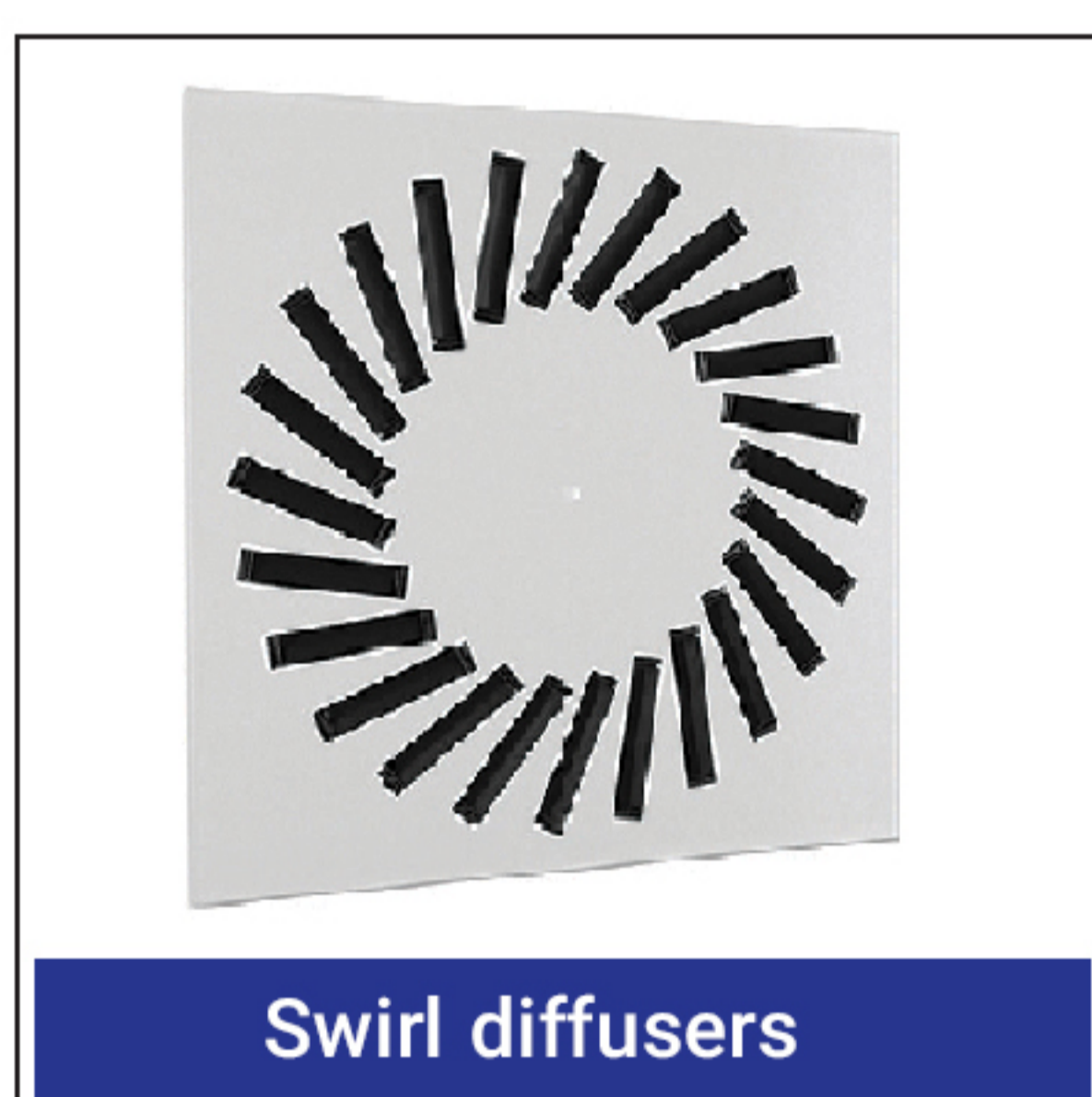
Fresh air louver



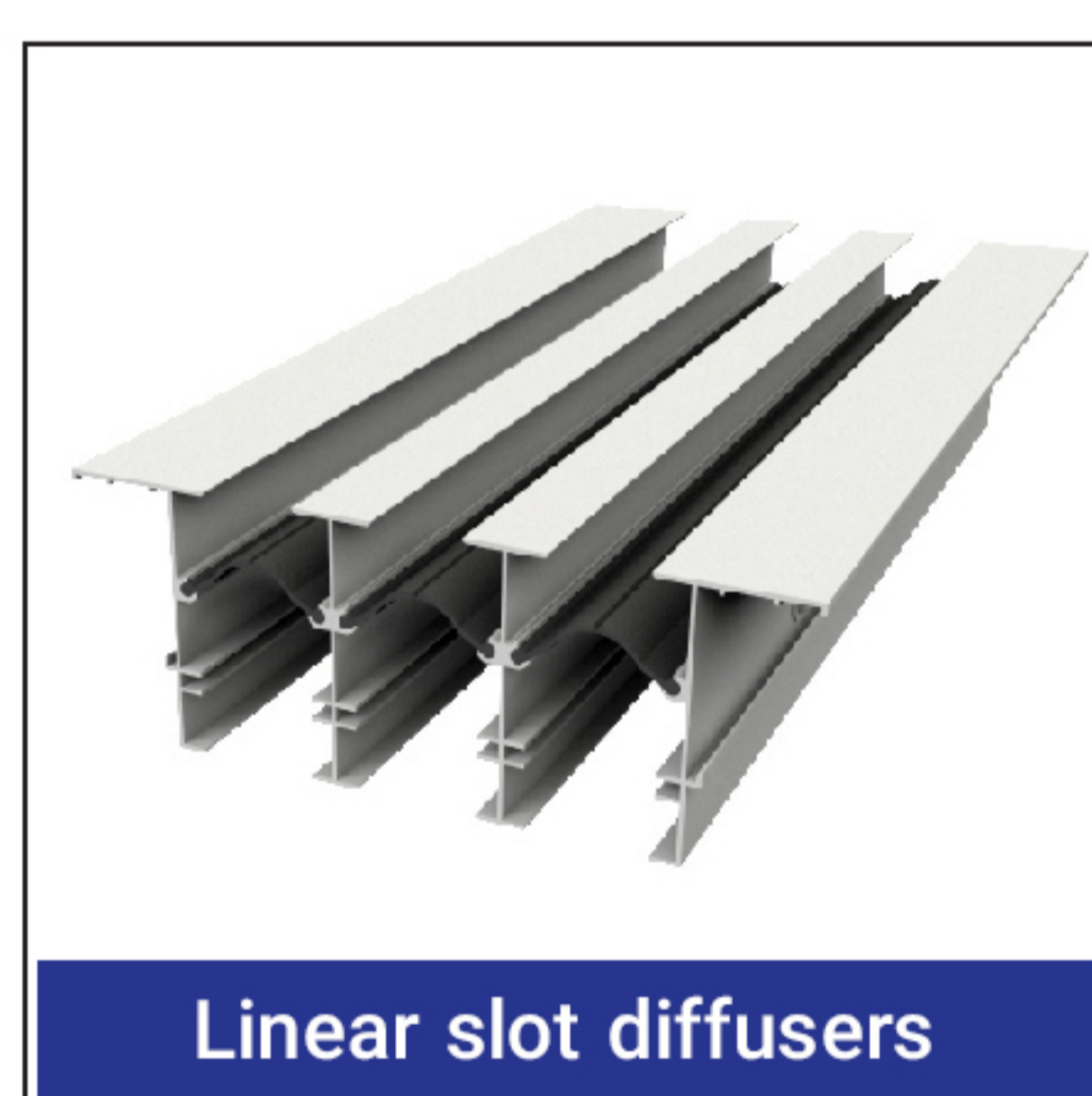
Motorized duct damper



Manual duct damper



Swirl diffusers



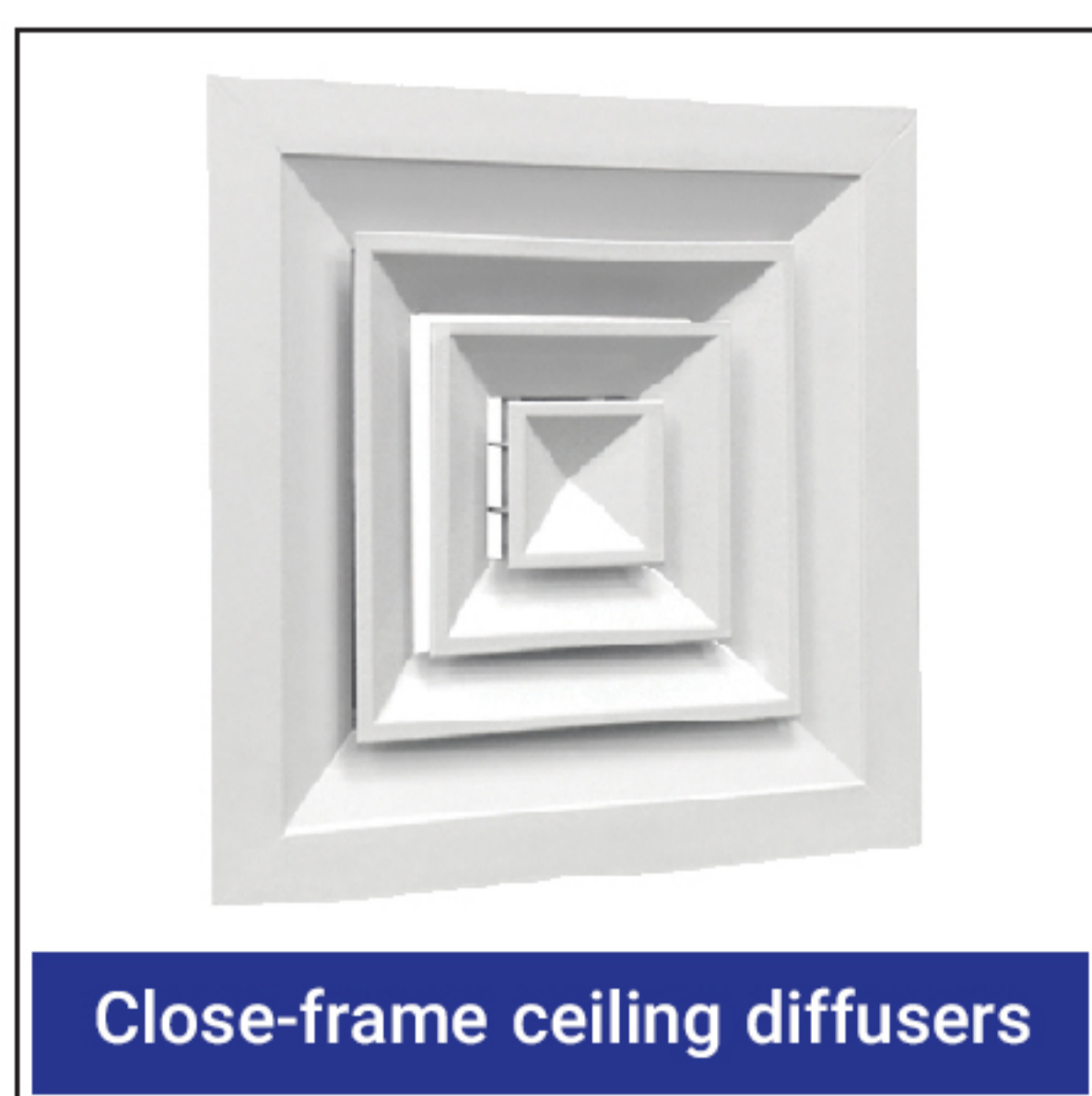
Linear slot diffusers



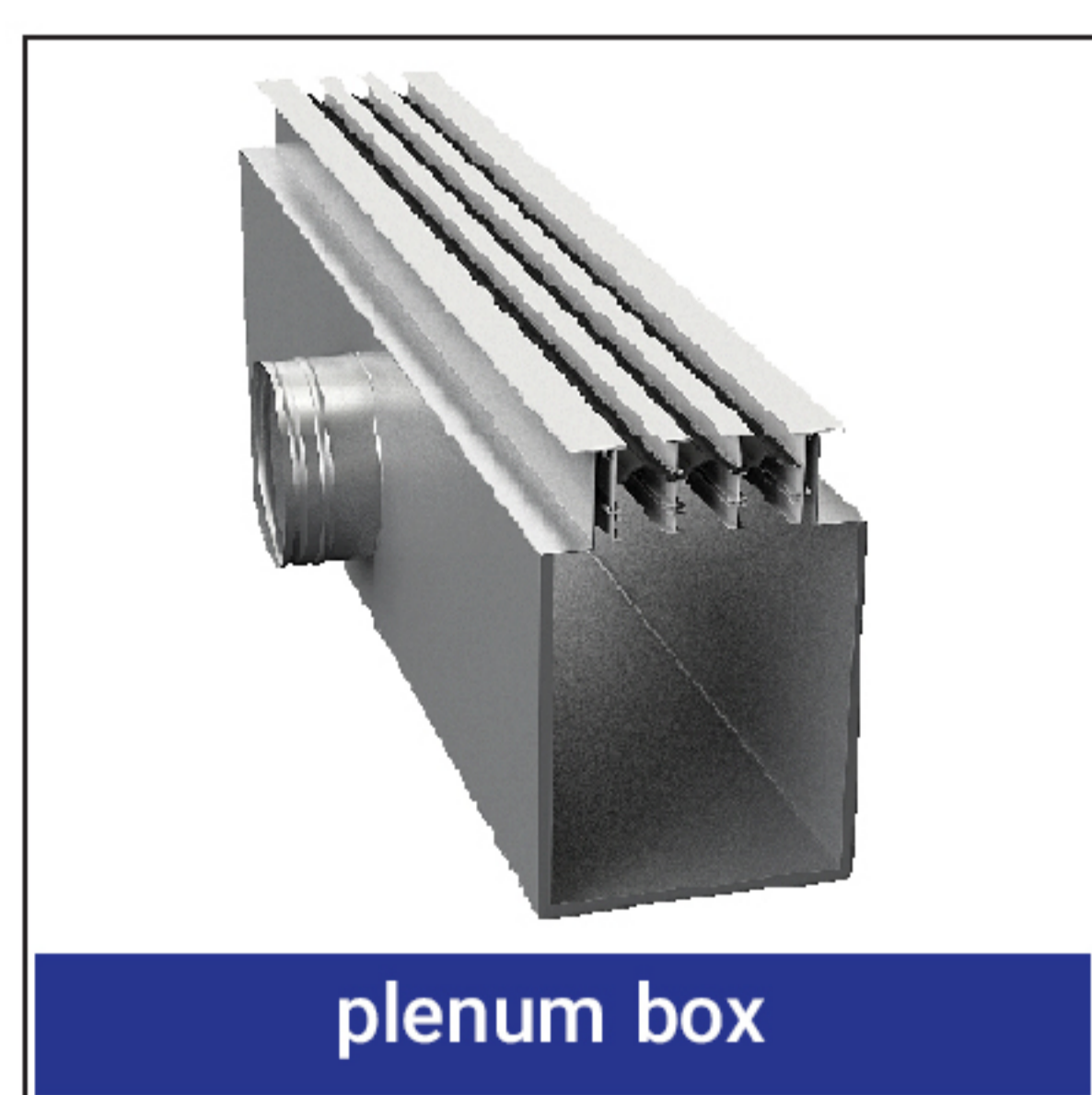
Dry ceiling access panel



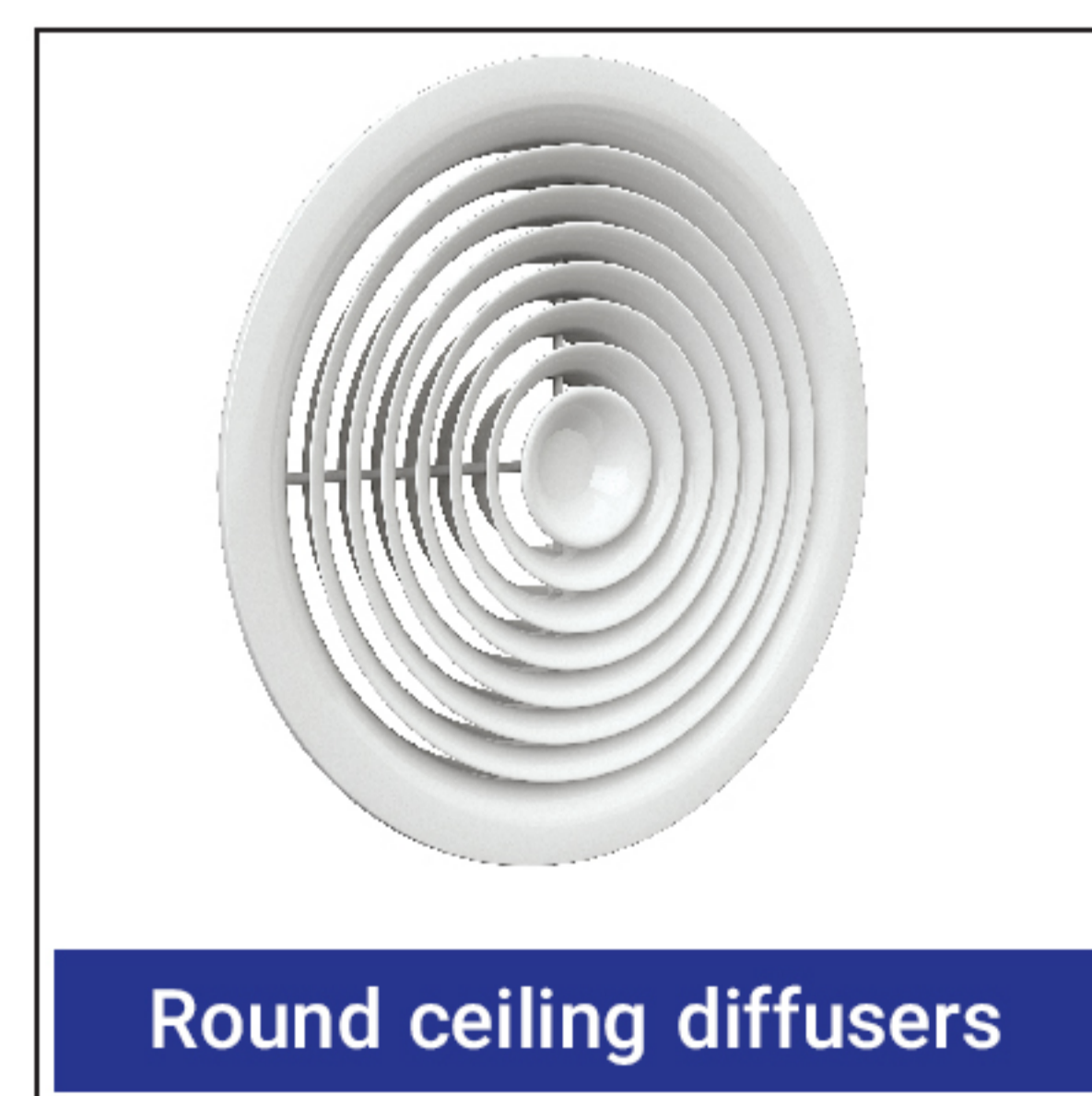
Fan coil access doors



Close-frame ceiling diffusers



plenum box



Round ceiling diffusers



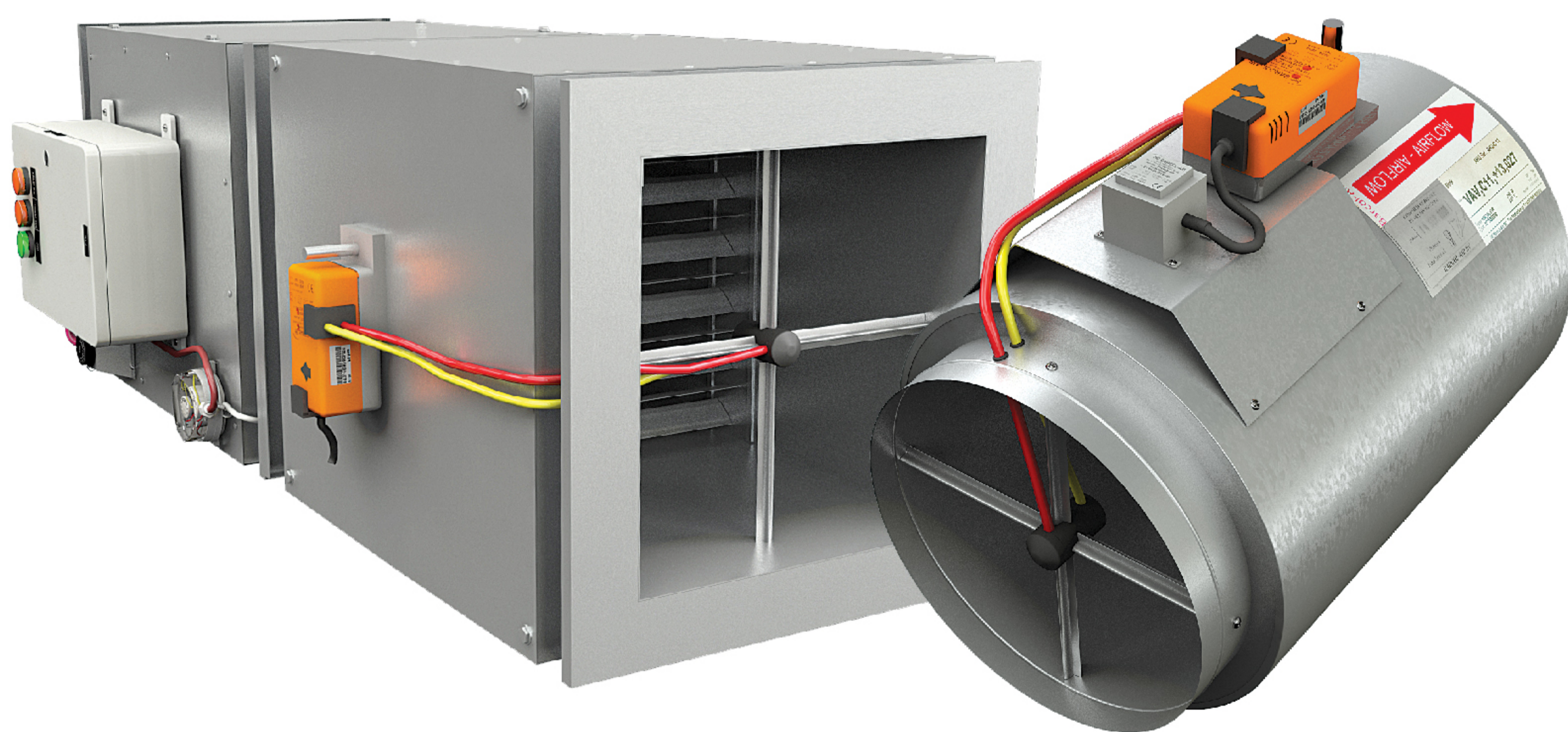
wall grilles



Constant air volume terminal

The controller, also known as a constant air volume terminal (CAV box), is fitted horizontally and vertically in air conditioning systems' supply and exhaust ducts to maintain a continuous air flow rate. Galvanized sheet serves as both the body and the control mechanism. The damper blade controls the air flow rate and is in the middle. To manually set the flow rate at a particular value, the airflow rate adjustment system features a rotating pointer, controlled flow range, and pointer lock.

There is no requirement for a power supply because the flow rate control is mechanical. A specific control mechanism in the manufacturing process of the blade and the flow rate adjustment system guarantees high control accuracy in the operating range of each size. Adjusting the lowest and maximum flow rates (V_{min} , V_{max}) will change how much air is needed. During pressure fluctuations, the flow rate of flowing air stays constant.



Round and square variable air volume terminal

Parallel Fan-powered VAV box. The operational unit is the flow sensor and motor fan assembly, and it is equipped with various necessary controllers depending on the kind of application. The fundamental model of this type of terminal contains an initial flow damper. Open coils of electric heating and hot water are also employed to account for any fluctuations in the area's load.

The outdoor areas of buildings are where the variable volume air terminal with parallel flow fan is most frequently employed. Additionally, it enables the central ventilation system to shut off when the room is unoccupied for a predetermined amount of time. In this instance, the fans and heating coils of the terminals individually supply the requisite heat to keep the area at the minimum required temperature during the central system shutdown times.



Operating room exhaust Grilles

As its name suggests, the operating room exhaust air grille (Grilles) is used to control the direction of exhaust air in the operating room. This grille's distribution pattern involves a steady descent from the ceiling.

The air duct of the operating room's wall is where the operating room return grille with the anesthesia socket is mounted at a convenient height and locations where anesthesia can be administered. After the anesthesia operation, the anesthetic gas tube is inserted into the anesthetic socket fitted to this grille, allowing return air to remove any residual anesthetic gas from the operating room environment. If wall return grilles are required in operating rooms without anesthetic sockets, aluminum airfoil Grilles should be used.



Motorized duct damper

The motorized duct damper control the air flow rate in ducts and grilles. It is utilized to connect, disconnect, and adjust the current quantity for this purpose. The built-in, V-shaped vanes in this model provide this function. This airflow management is crucial for controlling the pace and adjusting the proper aeration in various branches of the duct and when aeration is required in a particular location or during a specific season of the year.

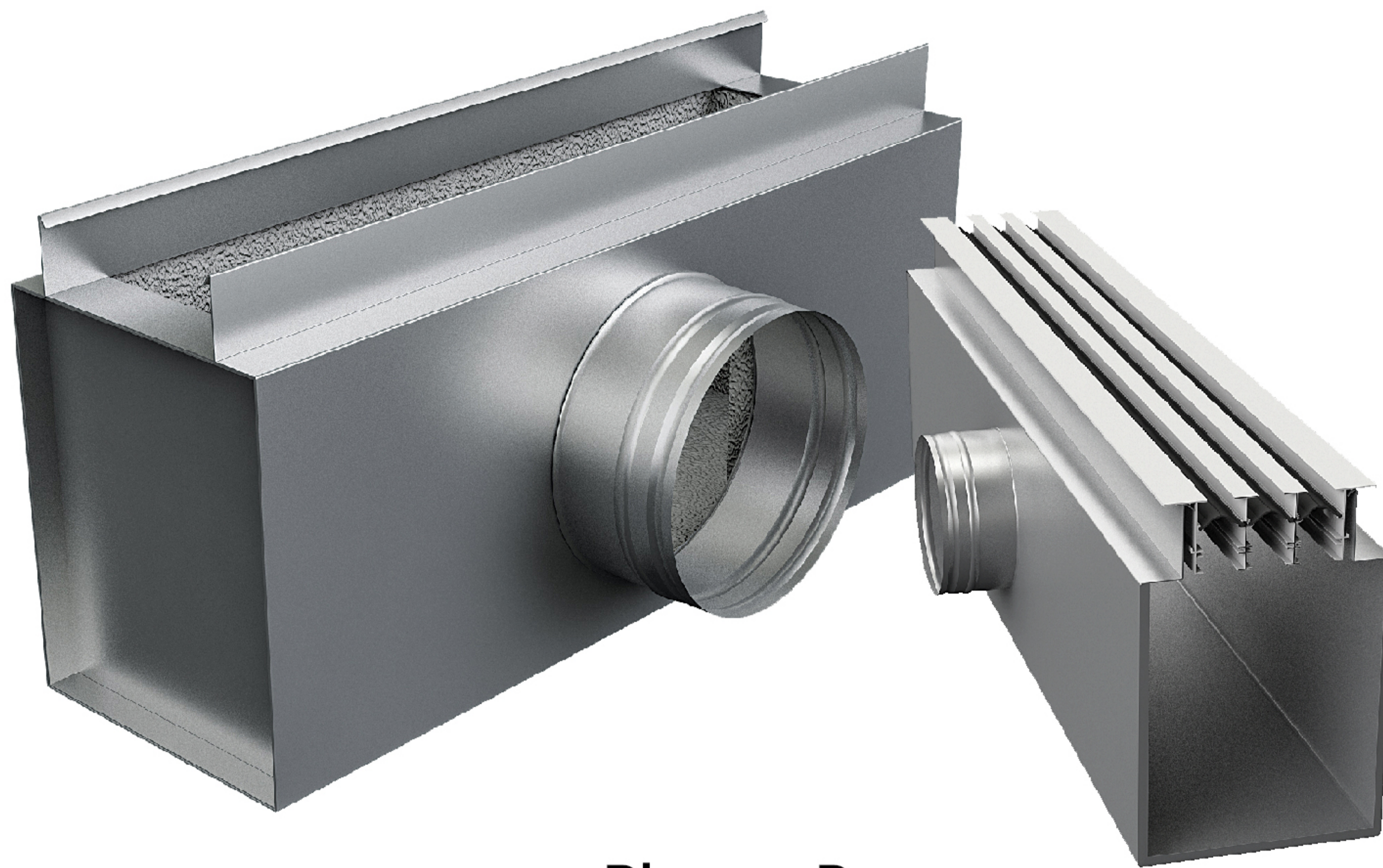
A thermostat, potentiometer, or central building automation system operates motorized automatic dampers. Three different types of motors are advised to use in motorized dampers.



Manual duct damper

The manual duct damper serves the same purpose as a water valve in water supply pipes, regulating the quantity of water flow through channels and grilles. It is utilized for this purpose for both joining and disconnecting as well as for flow control. When an area in a specific season of the year requires aeration, the built-in vanes, which in this model are of the disc kind, control the airflow and speed and adjust the suitable aeration. If the duct has several branches, it becomes significant.

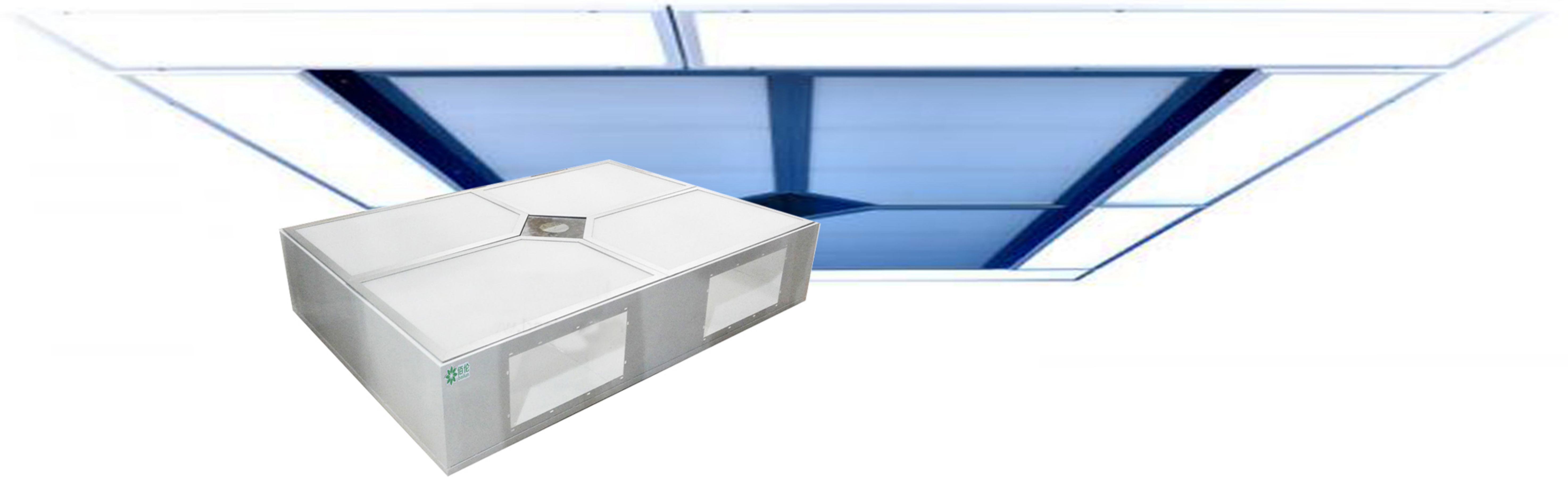
The airflow through the ducts can be shut off or balanced using duct dampers. The damper can be installed on the air duct's main line or on any of the room's sub-lines to prevent incoming air to any rooms that are not in use and to regulate the incoming air (hot or cold air) to each room.



Plenum Box

Plenum boxes are pieces of equipment put beneath linear slot diffusers and made from various thicknesses of galvanized sheet. In reality, plenums serve as a conduit between the linear bar grilles and the main line of the air duct. As a result, the same air volume is released from each point along the length of the linear bar grille, and the air output speed is constant throughout the whole linear bar grille. This tool's primary function is to establish a homogenous and equal pressure distribution along the length of the grille.

The plenums are typically arranged in groups of one-meter lengths along the required line for placing the linear bar grille, and the grille is then mounted on them as a single piece up to the maximum size that can be manufactured. Installing linear slot diffusers without using screws is another benefit of utilizing this device, and it significantly enhances the final decorative attractiveness



Laminar flow diffusers

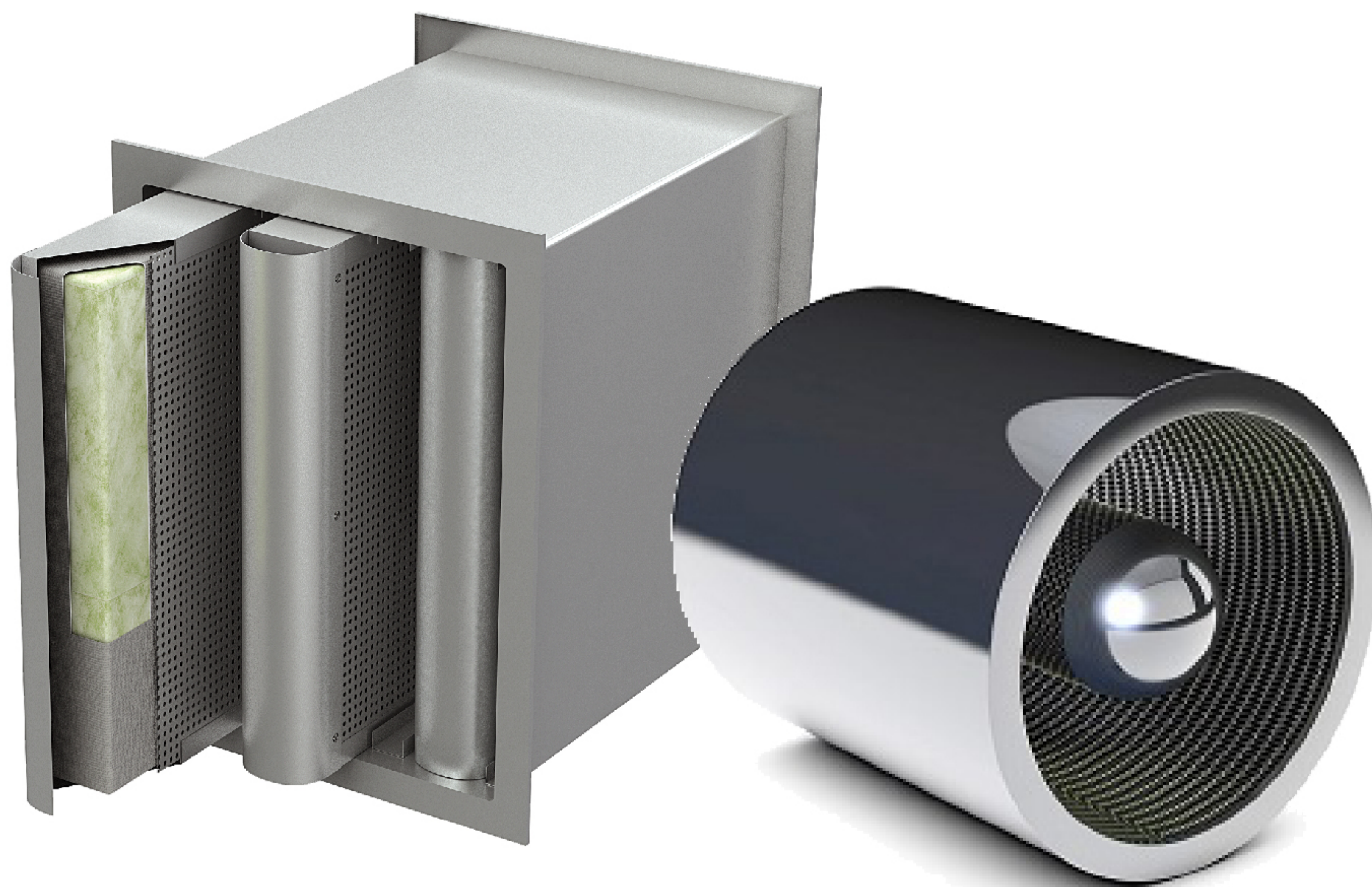
In terms of cleanliness and the presence of organic (living) and inorganic particles, the operating room's laminar flow diffuser is designed to keep the area around the surgical bed and its surroundings free of bacteria and other contaminants. It also provides comfort for the surgeons throughout the procedure. With a slow, parallel flow moving at a speed of between 0.2 and 0.4 m/s and an appropriate temperature, this device generates a space with positive pressure to the room's surroundings. It keeps pollution from entering the sub-laminar space's core. Additionally, it purges the area of human-caused pollution and releases it through the nearby vents.



Fresh Air Louver

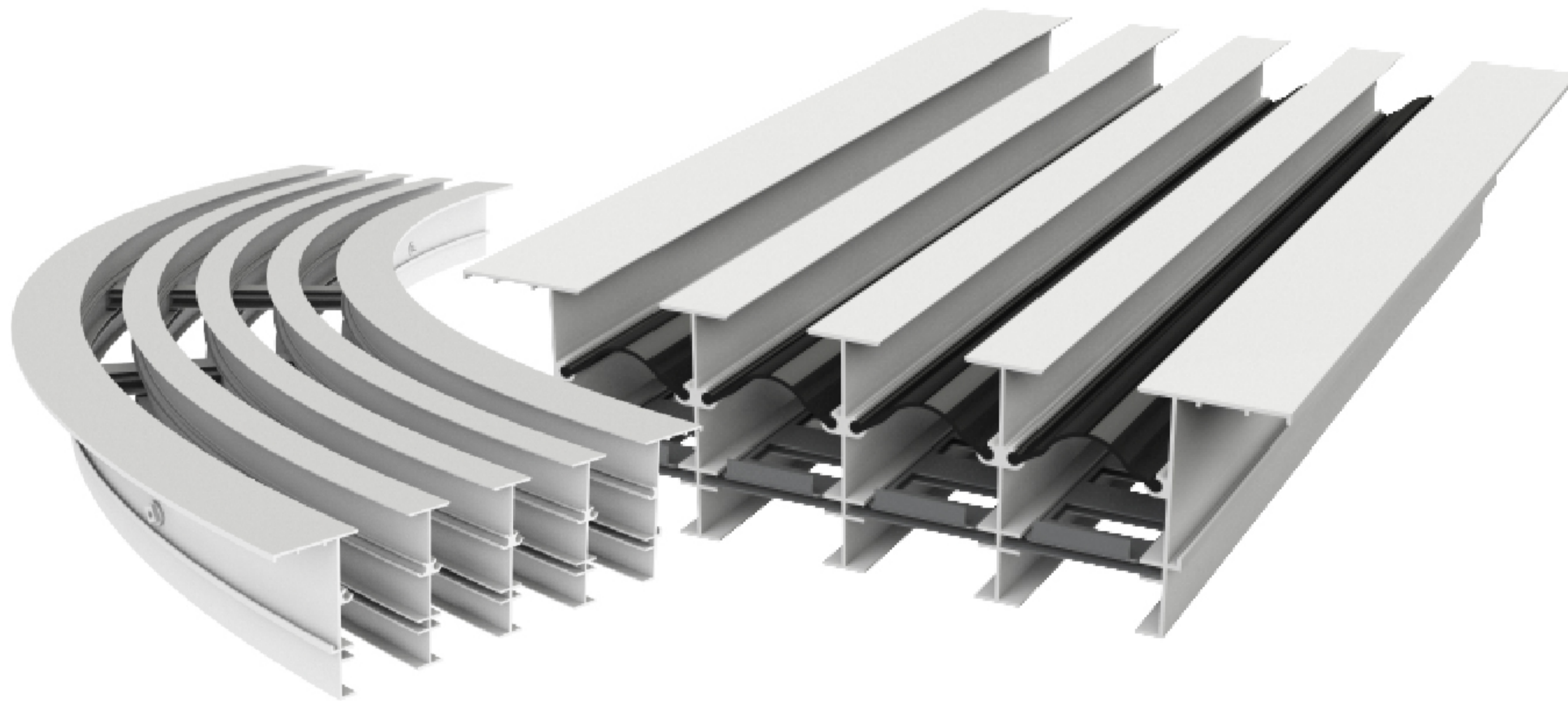
There is always a need to provide fresh air or return air from modern structures that include engineering and fundamental ventilation systems. A fresh air louver is used on the fresh air intake to ensure that only air enters the new air supply duct and to prevent the entry of rain, snow, and other materials. The buildings outside wall may occasionally serve as the terminus of the ventilation duct, or the structure may have an air conditioner chamber where the building's air conditioners and other air conditioning equipment are located.

Ventilation louvers ensure that the building's exterior doesn't have aesthetic issues and that the equipment and building receive the fresh air they need. Bird netting is typically put behind the louvers to keep birds out.



Duct Sound Attenuator

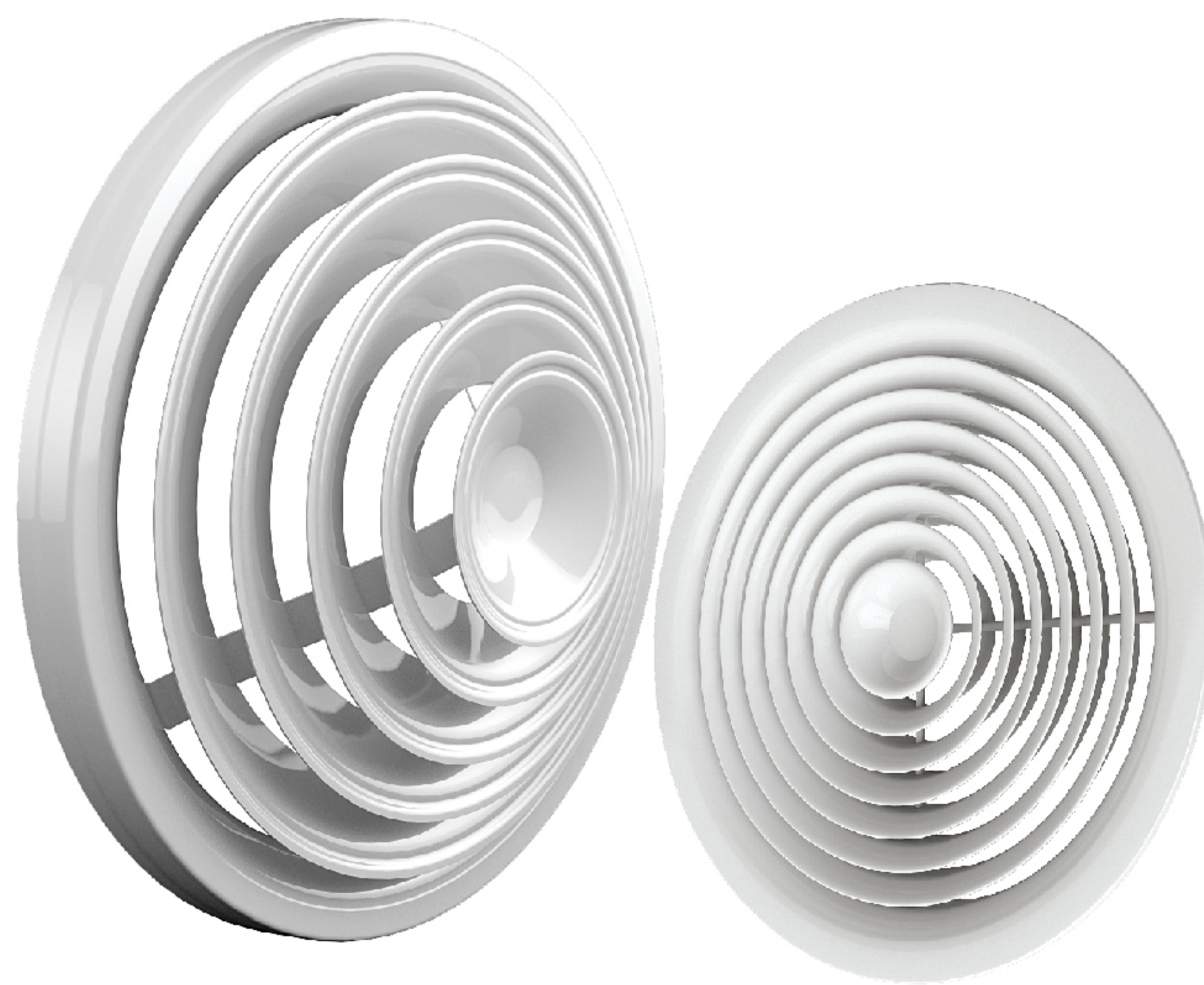
There are two types of duct sound attenuators: square and round, which can be installed in reciprocating ducting systems for air washers, air conditioners, and package units. One of Shahrokhi Technical Institute's premier products is the round duct sound attenuators. These sound attenuators are created and chosen following the current noise level, the volume of sound absorbed by the ducts and branches, the volume of sound absorbed by the surroundings, and other noise-reducing parameters. In the absence of the initial sound level generated by the air conditioning fan, the professionals at this institute precisely measure this level using sound level analysis tools and base their noise reduction device design on that measurement.



Linear Slot Diffusers

Due to their long service life, linear slot diffusers offer a large capacity for aeration volume and air distribution homogeneity in ventilated environments. These diffusers are installed either on the ceiling or the wall's forehead. The ornamental form and look of these diffusers, as well as their adaptability to implementation in various geometrical designs that are environmentally friendly, have made them a top choice among architects and engineers.

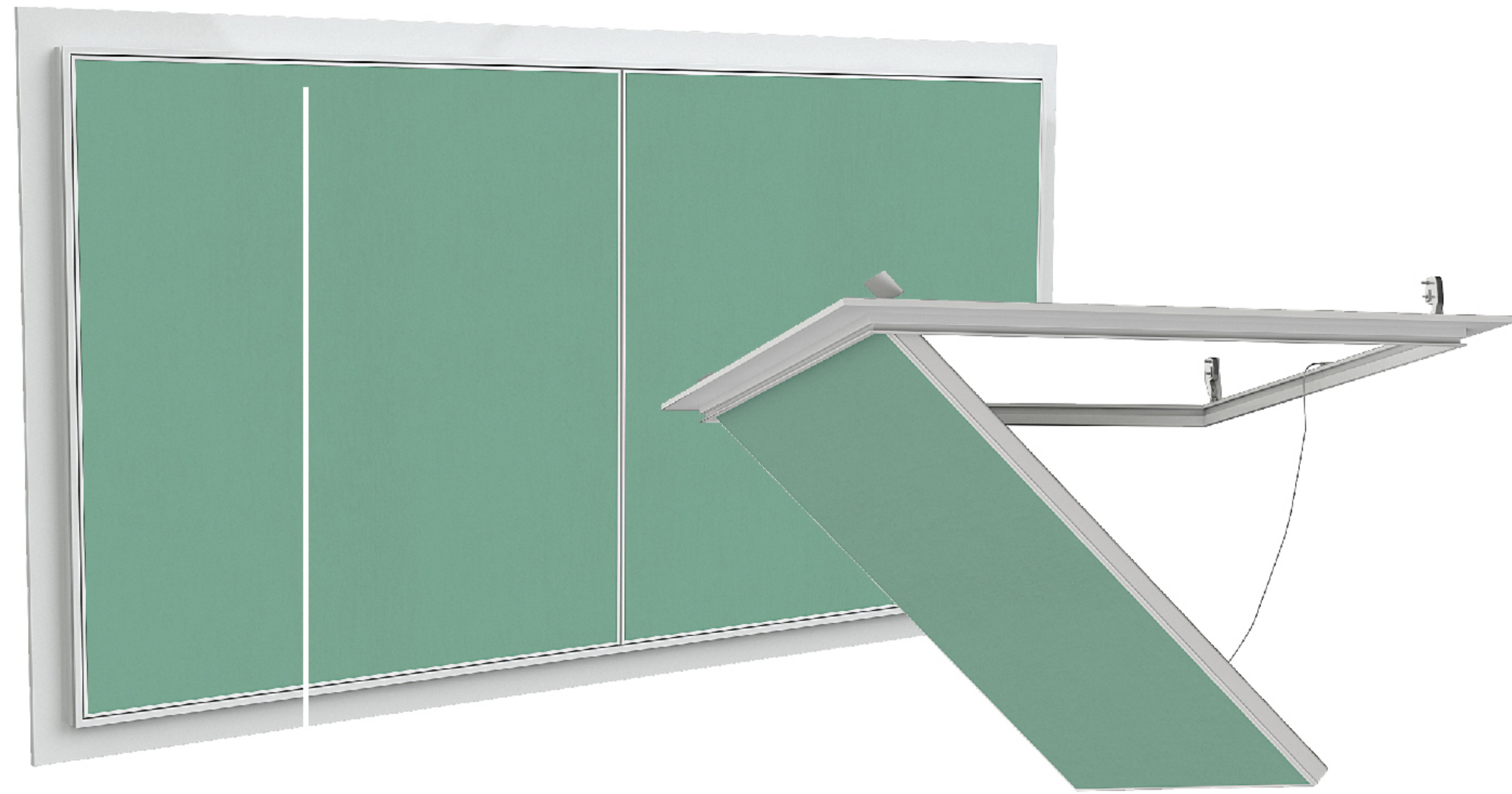
This diffuser has diverse air release patterns because it uses adjustable vanes (arched variants cannot utilize adjustable vanes), which leads to the selection of linear slot grilles in various applications. To preserve design coherence, linear slot diffusers are sometimes employed in the return line and used as supply air diffusers.



Round Ceiling Diffusers

The flat round diffuser applications include cooling, heating, and air conditioning; This may be utilized for forwards, return, and exhaust diffusers with a high airflow rate in ceilings smaller than 4 meters in height. These air adjustment diffusers make relatively minimal noise as the airflow passes over the blades because of the aerodynamic design of the blades.

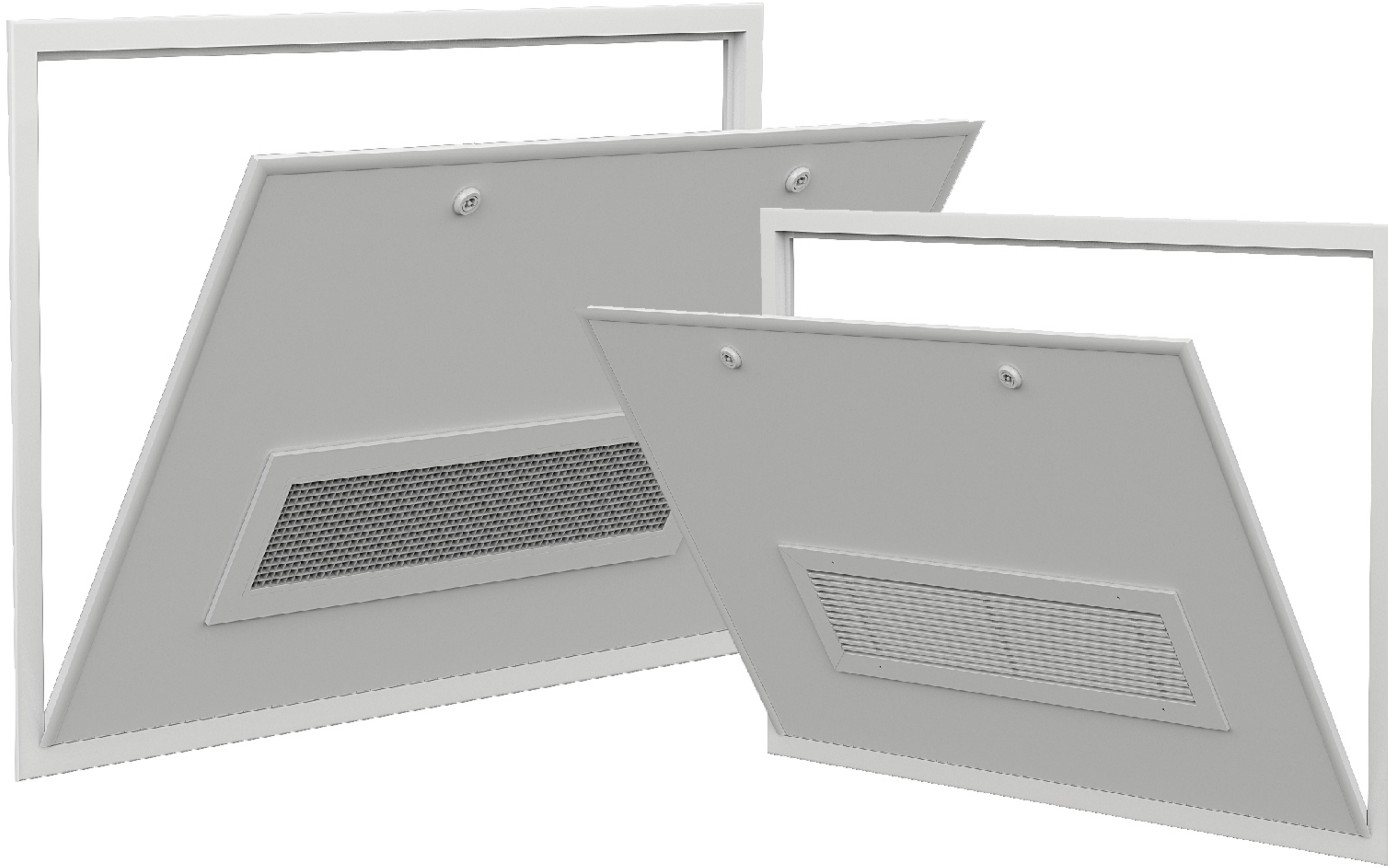
The applications for elevated round ceiling diffusers, also known as prominent round diffusers, include cooling, heating, and air conditioning. This diffuser can be opened in the valve's direction. In ceilings with a height of fewer than 4 meters, return and discharge (exhaust) with the volume of passing air and high passing speed (up to 2000 feet per meter). These air adjustment diffusers make relatively minimal noise as the airflow passes over the blades because of the aerodynamic design of the blades.



Dry Ceiling Access Panels

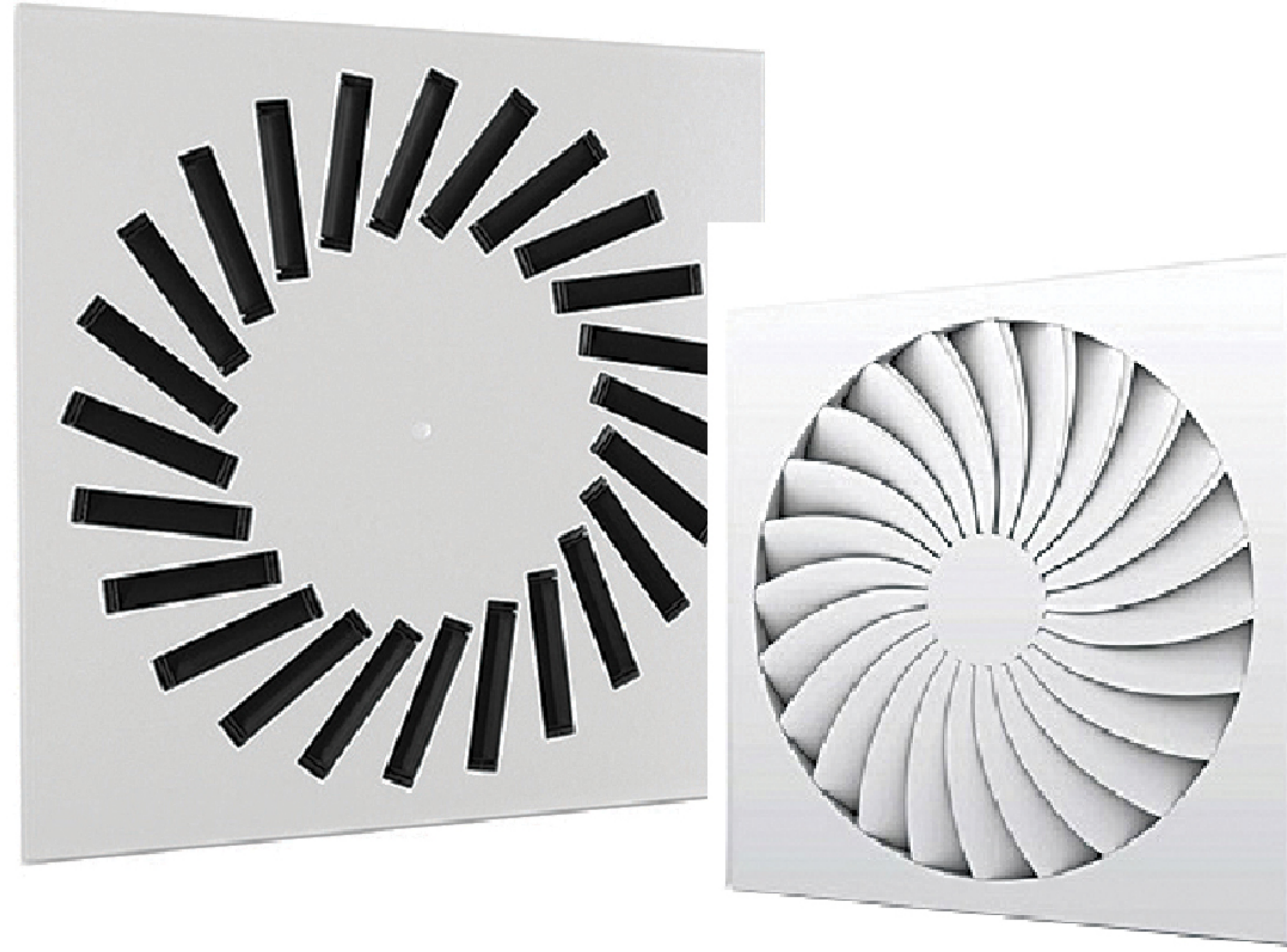
Usually, in buildings, there are places that can be visited on an emergency basis; For this reason, under these sections, dry ceiling access panels are installed so that these points can be accessed easily and conveniently.

Mechanical facilities could be accessed such as cleanouts, faucets, under-sewer siphons, and under-sewer risers through these panels, as well as electrical facilities and equipment such as telephones, central antennas, fire alarm systems, computer networks, and places where power cables pass.



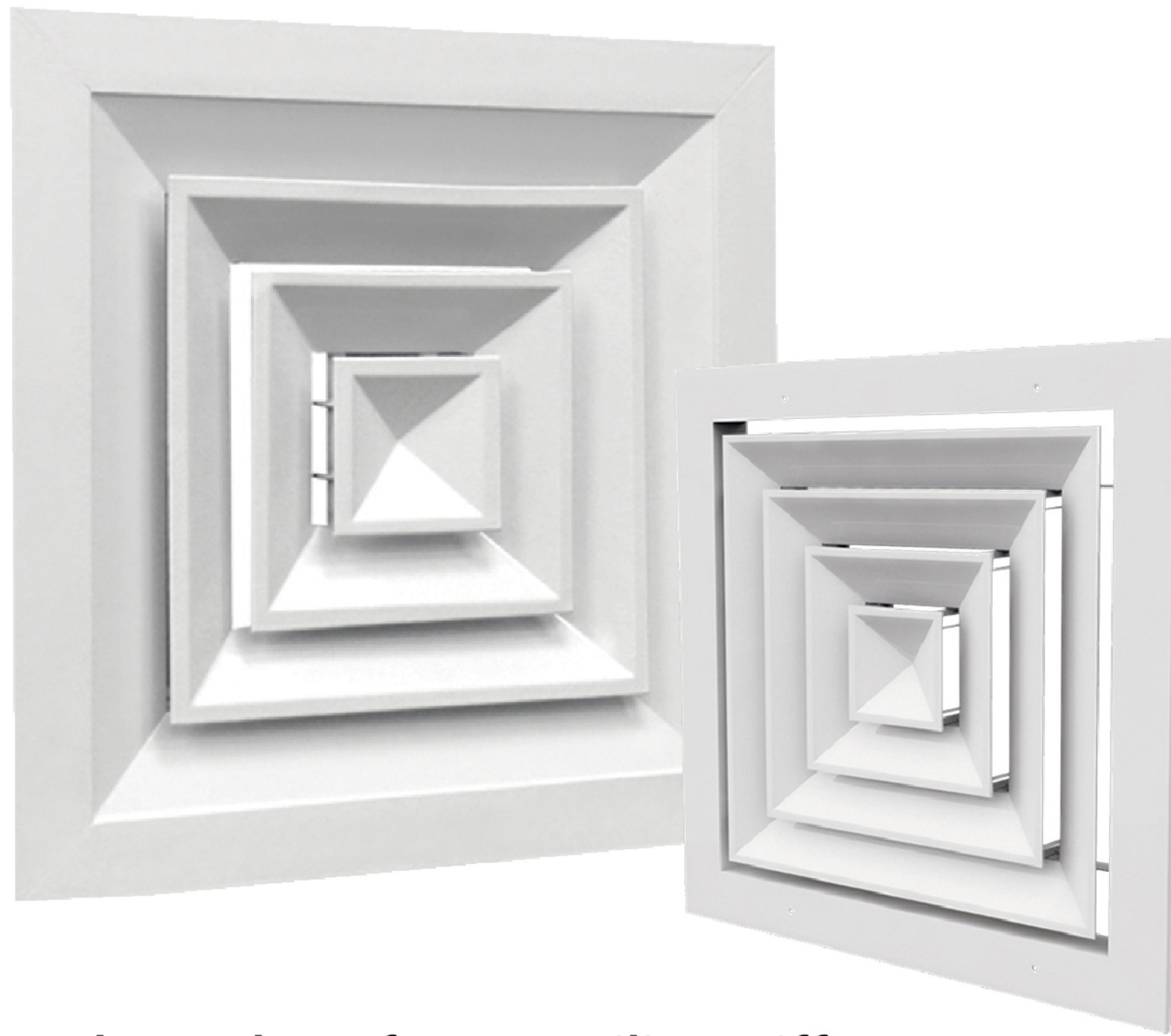
Fan coil Access Doors

In any location where ceiling or duct fan coils are utilized, fan coil access doors might be put underneath the fan coils to provide access to the fan coil and its valves for routine maintenance and repairs.



Swirl Diffuser

The swirl diffusers are utilized in clean rooms with no suspended particles in the air, and a high flow rate of air distribution is required. The swirl diffusers are frequently constructed of aluminum or stainless steel with a damper behind the diffusers, and have a filter box or plenum behind the diffusers that are deeper than the plenum boxes of standard diffusers. It is also frequently available in various electrostatic powder colors.



Seamless Close-frame Ceiling Diffusers

The typical method for building square ceiling diffusers has been joining aluminum profiles. But with the new design of this institute, it is now feasible to produce these diffusers seamlessly with an aluminum press for the first time in Iran, which is thought to be a significant advancement in the field of creating these diffusers.