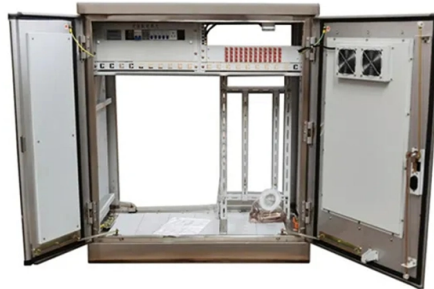


Grille and Distribution Box



AI Overview

A grille can function as part of a distribution system, but for balanced airflow, it is typically used with a plenum or grille box rather than as a standalone distribution box.

Function of a Grille in HVAC Systems Grilles are primarily designed to cover duct openings and direct airflow into or out of a space. They can be used for air supply, return, or exhaust, and are available in various types such as fixed or adjustable blades, single or double deflection, and perforated or solid faces depending on the application. While grilles provide the visible interface for air distribution, they do not inherently control or balance airflow on their own.

Grille Boxes and Plenum Integration To achieve even and efficient air distribution, grilles are often mounted onto grille boxes or plenum boxes. These boxes serve as a distribution chamber, allowing air from the duct to spread evenly across the grille's surface. This setup prevents uneven airflow, reduces noise, and ensures proper ventilation throughout the room. For example, the NOVA-R grille from Systemair recommends using a damper or plenum box to achieve balanced air distribution. Grille boxes are versatile and can be installed in ceilings, walls, or floors, providing a stable base for grilles, diffusers, or registers. They are essential in both residential and commercial HVAC systems to maintain comfort and system efficiency.

Installation Considerations

- Mounting:** Grilles can be mounted directly onto ducts or walls using screws, frames, or spring clips.
- Airflow Management:** Using a plenum or grille box helps distribute air evenly and allows for integration of dampers to control airflow volume.
- Maintenance Access:** Proper placement ensures access for servicing filters or dampers, which is critical for system performance.
- Aesthetic and Functional Design:** Blade angles, perforations, and finishes can be customized to match interior design while maintaining airflow efficiency.

Key Takeaway While a grille is a critical component of air distribution, it is not a complete distribution box by itself. For opti...

Article Content

Systemair

ODEN is an insulated plenum box developed for use with NOVA grilles. The product is installed at the end of circular ducts and removes the need for UR-NOVA. It features a circular inlet and a

Air Distribution Products, Natural Ventilation, & External Louvres by ...

Air Distribution Products Premier air grille and diffuser range developed for all types of heating ventilation and air conditioning application.

Distribution Boxes Explained: Types, Functions, and

Learn about distribution boxes, their types, functions, and safety features to ensure efficient and secure electrical power distribution in any building.

Grilles and diffusers play a very important role

Air outlets, like grilles and diffusers, play a very important role in the smooth and efficient operation of an air distribution system. Selecting the right product for can

Grilles, Registers, Diffusers, and Air Terminal Units

Models are engineered for supply air distribution in critical environments such as chem. labs and clean rooms. Radial diffusers create turbulent airflow to increase mixing within a space.

4 Types of Grilles in HVAC (Common Applications)

Grilles are essential in HVAC. They are responsible for airflow distribution and controls. However, there are many types of grilles in HVAC. So,

Plenum Boxes

Ventus Plenum Boxes are designed to ensure optimal air distribution before diffusion through terminals, maintaining a tight horizontal or vertical air pattern even at low

Distribution board

A distribution board (also known as panelboard, circuit breaker panel, breaker panel, circuit breaker, electric panel, fuse box or DB box) is a component of an

Grille Boxes | Grilles & Louvres | AMS Ducting Supplies

These boxes help direct airflow efficiently while providing a stable, secure base for the ventilation elements. Whether for ceiling, wall, or floor installations, Grille Boxes are versatile and easy to install,

Understanding Distribution Boxes: A Comprehensive

A distribution box, also known as a power distribution box or electrical distribution box, is used to distribute electrical power safely to multiple

Grilles, Registers, Diffusers, ATU Handbook, R6 May 2025

This short mixing box allows mixing of hot and cold decks in tight, limited spaces due to its small footprint. These retrofit assemblies are customized retrofit valves designed to slip into existing

Metalaire > Home

Full family of Linear grilles and diffusers that can be used for a wide variety of architectural applications. Available in varieties for ceiling, side-wall or floor mounting.

Air diffusion: Diffusers, Grilles, Louvres, Plenum boxes | Goveco

Whether the application requires the high precision of a jet diffuser in a large space or the aesthetic integration of a linear grille, professional air diffusion guarantees optimal thermal comfort and

Grills & Diffusers

Grilles and diffusers The prevailing types of the end elements in ventilation systems of office, industrial or public utility buildings are round or rectangular ventilation

Grilles & Diffusers

EXCELAIR GRILLES & DIFFUSERS EXCELAIR air outlets are the latest addition to the extensive product range manufactured by the CMS Group and are designed

Krueger-HVAC: Providing You With Air Distribution Solutions

Learn about Krueger's factory mounted valve packages and how they can help you save time and money. Design your next air distribution system with ease by taking advantage of the many

Grilles, Registers and Diffusers

GRILLES AND REGISTERS Greenheck offers a complete line of Grilles and Registers, including standard supply and return grilles, filter grilles, heavy duty grilles, industrial grilles and a full line of

Grilles, Registers and Diffusers

Greenheck offers a complete line of supply and return grilles that are available in aluminum, steel and stainless steel construction. These products are offered in single and double deflection, perforated

Plenum for grille, Halton BDR. Wide range of dimensions.

Function The duct pressure and air velocity are reduced inside the Halton BDR plenum box. Consequently supply air is evenly spread over the surface of the

What Are Grille Boxes in HVAC How Are They Selected

What Are Grille Boxes in HVAC? How Are They Selected? In heating, ventilation, and air conditioning (HVAC) systems, efficient air distribution is essential to maintain indoor air quality and

Comparison of Grilles and Slot Diffusers in Ventilation

This page outlines the various types of grilles and slot diffusers used in ventilation systems, their characteristics, and suitable applications. Proper selection and

Plastic Grille Boxes

Plastic Grille Boxes, Plenum boxes available in various sizes to fit 4-Way Diffusers. Each grille box features multi-sized spigot.

Plenum Boxes 12

Introduction Correct selection and sizing of distribution plenum chambers is critical because grille air resistance is very low relative to the distribution ductwork resistance.

Grille & Plenum Boxes | Grilles & Louvres | Ducting | Buy Online

Please use this product if you want to define the dimensions of a rectangular or bespoke grille or plenum box to your exact requirements. Includes the option to select acoustic insulation.

Contact Us

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