

Grille as a distribution box

Article 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

Article Content

Jun 02, 2026

Air Ventilation Grill Types Explained: Which One Is Right for Your

Introduction Air ventilation grilles are essential for managing indoor airflow and improving air quality in residential,

Apr 06, 2026

Ultimate Guide To Distribution Boxes Db Boxes Types

Introduction For procurement professionals, electrical contractors, and project managers, choosing the

Nov 13, 2025

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

Jul 19, 2026

Plastic Grille Boxes

All our Plastic Grille Boxes (also known as a plenum box) are manufactured from recycled high impact resistant black plastic, much

Jun 03, 2026

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,

Mar 27, 2026

Grills & Diffusers

Wide selection of ventilation grills and diffusers for enhanced airflow and system efficiency.

Jun 07, 2026

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

Aluminium bar grille, suitable for the supply and exhaust of cooled or heated air, with straight bars or with 15° deflection. The grille is

Aug 28, 2025

Grilles, Registers and Diffusers

Greenheck offers a complete line of supply and return grilles that are available in aluminum, steel and stainless steel construction.

Feb 25, 2026

[Metalaire > Home](#)

METALAIRE is the flagship brand of Metal Industries Inc., offering a complete line of air distribution and air terminal products. From

Dec 04, 2025

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INDUSTRIAL / SPECIALTY / HEAVY DUTY GRILLES DOOR GRILLES / TRANSFER GRILLES
Air Terminal Units (ATU), also

Dec 03, 2025

Supply Air Grille, type DA | Barcol-Air Group AG

DA Supply Air Grille Due to their high induction effect, diffusion grilles provide a rapid, effective mixing of supply air and room air and

Nov 17, 2025

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

Capacities ranging from 80-4,400 cfm in multiple unit sizes. These retrofit air terminals are designed to regulate the flow of

Jan 03, 2026

Distribution board

A distribution board (also known as panelboard, circuit breaker panel, breaker panel, circuit breaker, electric panel, fuse box or DB

May 18, 2026

Electrical Distribution Boxes for Power Distribution

The Wieland distribution boxes, in compliance to IEC 61439, together with our installation connector

May 31, 2026

Standard Grille CFM Reference Chart

This document provides a quick reference chart for common grille and diffuser sizes and their maximum airflow capacities (CFM) to

Nov 03, 2025

Krueger-HVAC: Providing You With Air Distribution Solutions

Learn about Krueger's new heating and cooling changeover diffuser. Learn about Krueger's new and improved aluminum, heavy

Jun 21, 2026

Wiring of the Distribution Board with RCD (Single Phase

Wiring Accessories for Single Phase Distribution Board Main Distribution Board or Fuse Boards (Consumer

Jul 24, 2025

Plenum boxes for mounting round/rectangular diffusers | Goveco

Plenum boxes A plenum box is an essential component in HVAC air distribution systems, typically used in conjunction with diffusers,

Apr 07, 2026

Titus HVAC | Engineering Innovative Air Distribution Solutions ...

Aluminum direct spiral duct mounted double deflection supply grille with radius end cap, 3/4" spacing with front blades parallel to

Jun 22, 2026

NOVA-R Grilles

NOVA-R is a rectangular, non-transparent aluminium grille with fixed blades. Available in different sizes, the unit is designed for air

Nov 15, 2025

Systemair

ODEN is manufactured from galvanised steel sheet and consists of a box, casing, internal insulation, a grille connection, a duct

Mar 13, 2026

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

Dec 27, 2025

Air grilles & grille strips

Our ventilation grilles and grille strips are available in various versions. They are suitable for use in supply air ventilation and air

Dec 06, 2025

What Is a Distribution Box?

What to Look for When Choosing a Distribution Box If you're going to buy a distribution box, there are several things

Aug 31, 2025

Zehnder grille box ComfoCase TVA-P

The Zehnder ComfoCase TVA grille boxes (plenums) are the connecting elements between 1 or 2 ComfoTube 90 air distribution

Aug 02, 2025

Cosmos Air Distribution Products | Grilles and Registers

COSMOS Grilles and Registers covers a wide range for supply and return air distribution of HVAC systems

Contact Us

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