

شركة مصنع عالم النصرية المحدودة
AL NASSERIAH WORLD FACTORY COMPANY LTD

Who we are:

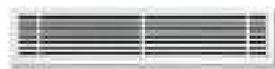
AL-Nasseriah World Factory Company Ltd (ANA) Factory established in 2006, the factory started as a fledgling in the grills and diffusers air distribution devices manufacturing industry, then in a short span of time, it has transformed into becoming one of the major player in the Air Distribution business in the market. Its work force began with a few people and now the employees have become more than double. Manpower is further strengthened by its machineries and continues to expand with a good balance of human resource and equipment. Operations are maintained by professional managers, engineers and highly skilled technical man-power meanwhile we brought the most efficient machines in air outlets line and GI line such as the Plasma CNC cutting machine and a wide range of folding and pending machines, and our powder coating synchronization line is one of the fastest and most accurate lines in this filed, and all of our production procedure and quality is supervised by our QC/QA Engineers side by side by our Technical Engineers to ensure the best quality as per the International standard.

Our Vision:

AL-Nasseriah World Factory Company Ltd (ANA) Vision is to become the largest contributor of Grilles and Diffusers and duct accessories to the development of cities in the Kingdom.

Our Mission:

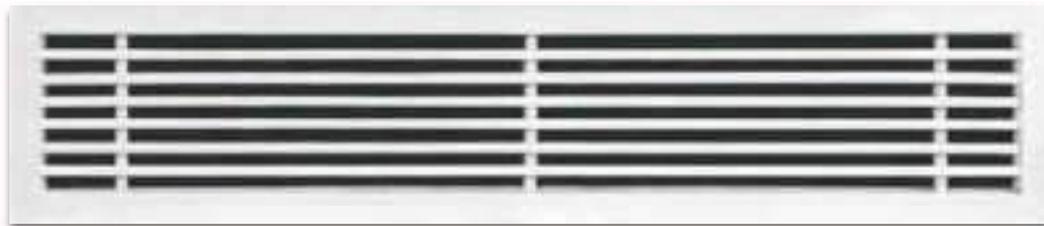
AL-Nasseriah World Factory Company Ltd (ANA) will continue to grow adding new product lines depending on the needs of the community and at the same time maintaining a healthy and environmental friendly activity.



LINEAR BAR GRILLES

ANA Linear Bar Grilles

Is designed for supplying or returning air, commonly used in wall air distribution applications. Basically constructed with horizontally fixed blades at 0° deflection per standard.



ANA LBG Construction

Frame :

Constructed from extruded Aluminum alloy **6063** Profiles, with a thickness of **(1.2 mm)** and a flange width of **(30 mm)**.

Blades :

Constructed from extruded Aluminum alloy **6063** Profiles, fixed horizontally to the frame using mullion bars and arranged with **(11 mm)** distances between each two blades centers and other options are also available upon the request. Blades are available in **0°, 15°** and **30°** deflection.

Dampers:

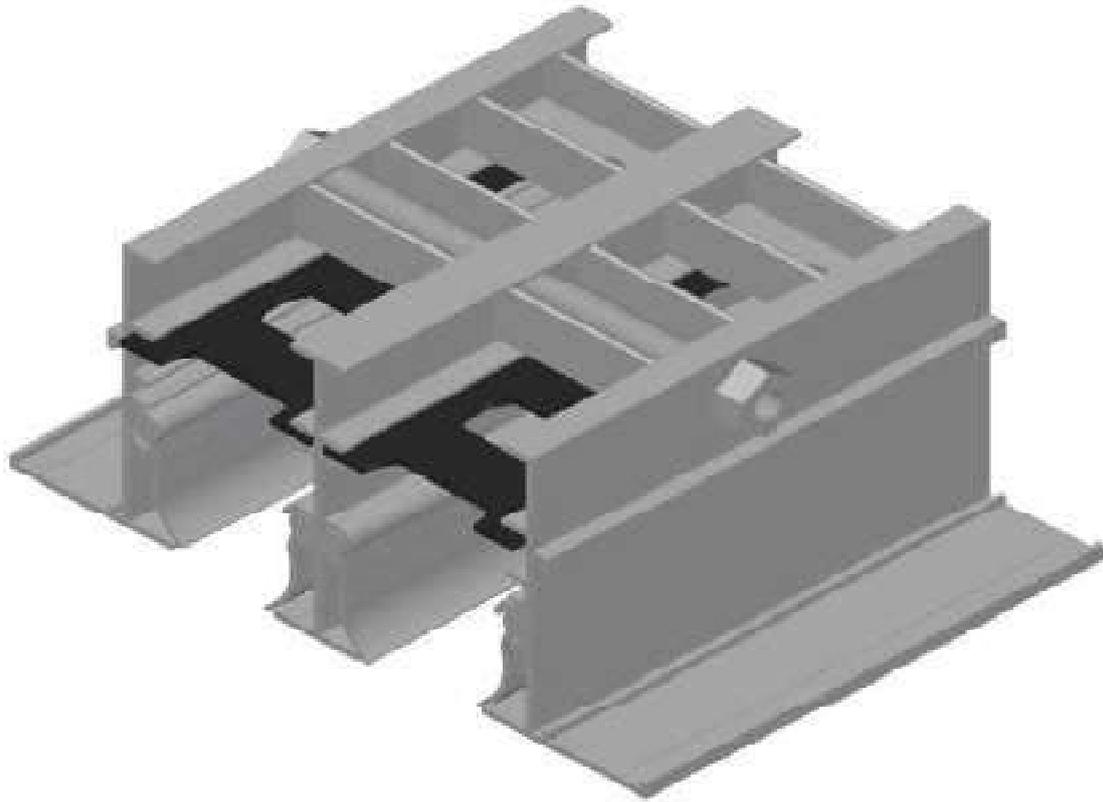
Can be added if required. Opposed blade damper (OBD) type easily attached to the top side of the grille by locking clips, constructed from extruded Aluminum alloy **6063**.

Finish :

Electrostatic powder coating is used for LBG with standard white color for the Frame and the blades **(RAL 9016)** and black color for the damper **(RAL 9005)**. Other colors are available upon the request from the customer.

ANA Technicians are available to take the actual measurements from site upon the request

ANA Linear Slot Diffuser Is designed for supplying or returning air, commonly used in Ceiling (Horizontal) air distribution applications. Basically constructed from extruded aluminum profiles and can be made of single or multiple slots .



ANA LSD Construction

Frame and Blades :

Are made of extruded aluminum profile **6063** and a thickness of **(1.2)** mm, Pattern deflectors are adjusted in supply applications to control air pattern .

Dampers:

In LSD, Hit and Miss dampers are adjusted for supply applications (two hold strips one is fixed and the other is movable) and can be controlled by moving the notch of the movable holed strip.

Finish:

Electrostatic powder coating is used for LSD with standard white color for the Frame and the body **(RAL 9016)** and black color for the deflector and damper **(RAL 9005)** and other colors are available as per the customer request.

ANA Air Grilles and Registers

Is designed for supplying or returning air, commonly used in wall air distribution applications. Basically constructed with single or double deflection blades, horizontally or vertically.



ANA AG and AR Construction

Frame :

Constructed from extruded Aluminum alloy **6063** Profiles, with a thickness of **(1.2 mm)**, neck depth of **(25 mm or 45 mm)** ,depends on deflection options, and a flange width of **(30 mm)**.

Blades :

Constructed from extruded Aluminum alloy **6063** Profiles, attached horizontally as standard (Vertical front blades is available upon request) to the frame, and arranged with **(20 mm)** distances between each two blades centers.

Dampers:

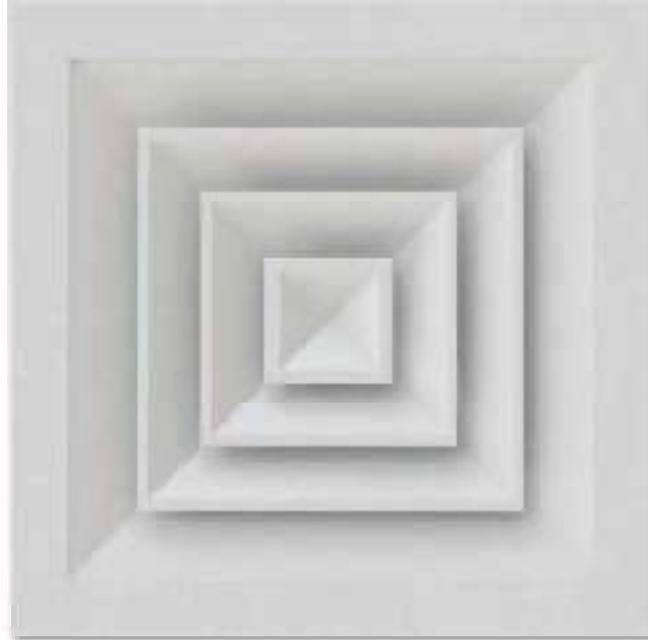
Added in air registers, Opposed blade damper (OBD) type easily attached to the top side of the grille by locking clips, constructed from extrude Aluminum alloy **6063**.

Finish :

Electrostatic powder coating is used for AG and AR with standard white color for the Frame and the blades **(RAL 9016)** and black color for the damper **(RAL 9005)** and other colors are available upon request from the customer.

ANA Ceiling Diffusers :

Is designed for supplying or returning air, commonly used in Ceiling air distribution applications. Basically constructed from a frame, a fully removable core and a flower in the middle of the core.



ANA CD Construction

Frame :

Constructed from extruded Aluminum alloy **6063** Profiles, with a thickness of **(1.2 mm)** and a flange width of **(73 mm)**.

Core :

Constructed from extruded Aluminum alloy **6063** Profiles fixed to the frame using mullion bars and arranged with **(35 mm)** distances between each two blades necks. Blades are available in one, two, three or four way air discharge.

Dampers:

Can be added if required. Opposed blade damper (OBD) type easily attached to the top side of the grille by locking clips, constructed from extrude Aluminum alloy **6063** with black color for the damper **(RAL 9005)**.

Extension :

For size difference between the neck and the frame (more than **146 mm**), T-bar is used as an extension and constructed from aluminum sheet **6063**.

Finish :

Electrostatic powder coating is used for CD with standard white color for the Frame and the blades **(RAL 9016)** and black color for the damper **(RAL 9005)** and other colors are available upon request.

ANA Round Ceiling Diffusers :

Is designed for supplying or returning air, commonly used in Ceiling air distribution applications. Basically constructed from a frame, a fully removable core and a flower in the middle of the core.



ANA RCD Construction

Frame :

Constructed from Aluminum Sheet alloy **6063**, manufactured in a round shape to give a unique architectural design .

Core :

Constructed from Aluminum sheet alloy **6063** , designed to give a full 360°spread for better air distribution. fixed to the frame using mullion bars and arranged with Fixed distances between each two blades necks.

Dampers:

Can be added if required. Butterfly Damper (**RAL 9005**) type attached to the top side of the Diffuser by rivets.

Finish :

Electrostatic powder coating is used for RCD with standard white color for the Frame and the cores (**RAL 9016**) and black color for the damper (**RAL 9005**) and other colors are available upon the request.

Sizes :

6", 8", 10", 12", 14", 16" and 18"

ANA Jet Diffuser :

Is designed for supplying air, commonly used in Ceiling air distribution applications in places which requires a high throw. Basically constructed from a frame and a horizontally or vertically movable cylinders core.



ANA JD Construction

Frame :

Constructed from Aluminum Sheet alloy **6063** in a round shaped or can be made with square shape GI sheet **G90**.

Core :

Constructed from Aluminum sheet alloy **6063** or Galvanized steel to handle huge airflow. fixed to the frame using mullion bars and arranged with Fixed distances between each two cores. Can be controlled manually and directed Vertically or horizontally in **30°**.

Dampers:

Can be added if required. Butterfly Damper type attached to the top side of the Diffuser by locking clips, constructed from Galvanized steel. and can be controlled by the screw.

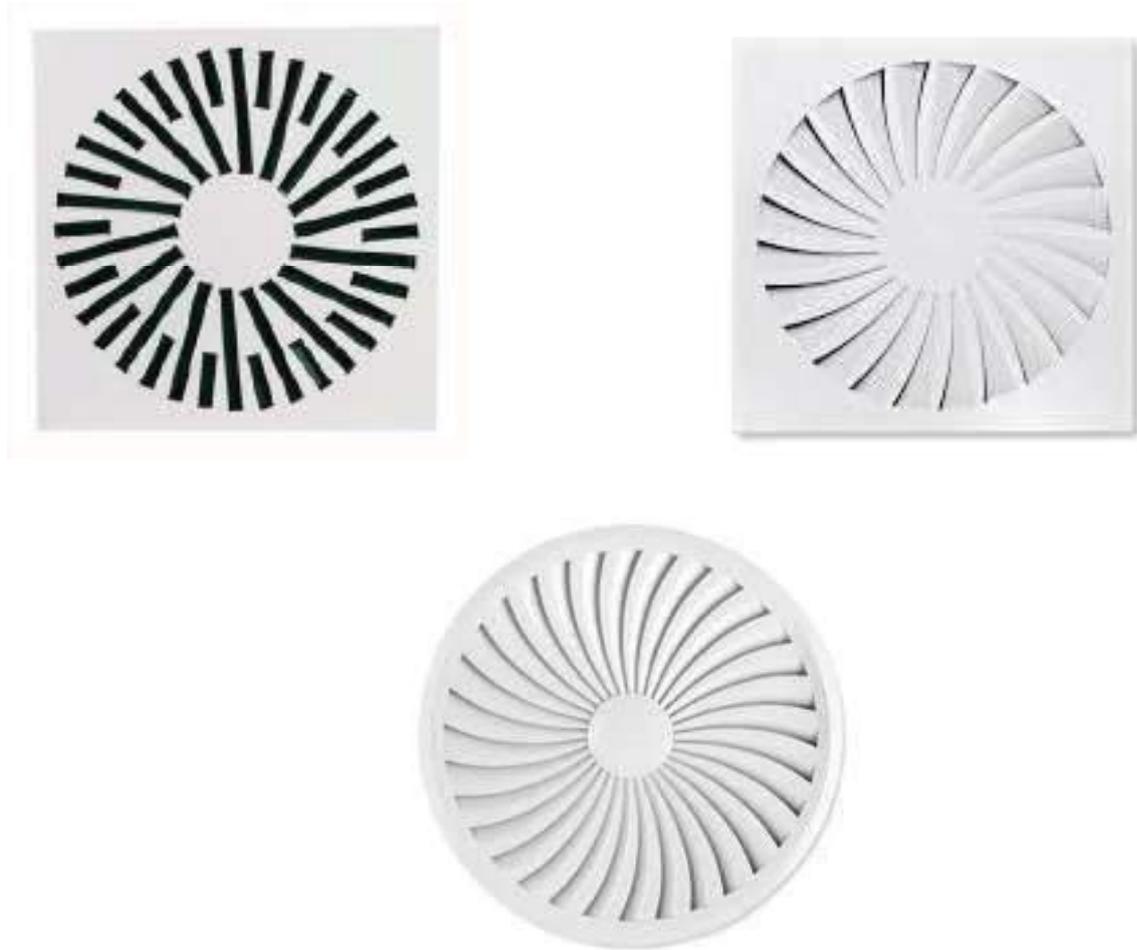
Finish :

Electrostatic powder coating is used for Jet Diffusers with standard white color for the Frame and the Cores (**RAL 9016**) and black color for the damper (**RAL 9005**) and other colors are available upon request.

SWIRL DIFFUSER

ANA Swirl Diffuser :

Is designed for areas where rapid mixing of supply air is required in rooms of ceiling height between 2.6m and 4m and these diffusers produce a horizontal radial air pattern with high induction effect which making them ideally suited for applications with high heating and cooling differentials.



ANA Swirl Diffuser Construction

Frame :

Constructed from Aluminum Sheet alloy **6063** with a thickness of **(1.2 mm)** .

Finish :

Electrostatic powder coating is used for Swirl Diffusers with standard white color for the Frame **(RAL 9016)** and other colors are available upon request.

DISC VALVE

ANA Disc Valve :

Is designed for exhaust air in bathrooms and suitable for ventilation and air conditioning with low noise level even at high velocities.



ANA Disc Valve Construction

Frame :

Constructed from Galvanized steel in a round shaped with foam gasket.

Core :

Constructed from Galvanized steel with screw and nut for air control.

Finish :

Electrostatic powder coating is used for Disc Valve with standard white color for the Frame and the Cores **(RAL 9016)** and other colors are available upon request.

ANA Egg Crate Grille :

Is made of linear slits which are bonded together to form a horizontal and vertical grid structure. Egg Crate Grille has uniform square openings with 90% free area & zero deflection for optimal air flow and distribution in rooms with low noise level and pressure drop.



ANA ECG Construction

Frame :

Constructed from extruded Aluminum alloy **6063** Profiles, with a thickness of **(1.2 mm)** and a flange width of **(30 mm)**.

Core :

Aluminum egg crate style core (13 x 13 x 13mm)

Dampers:

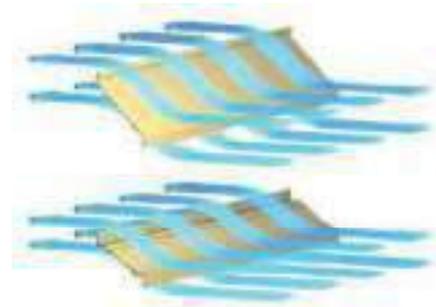
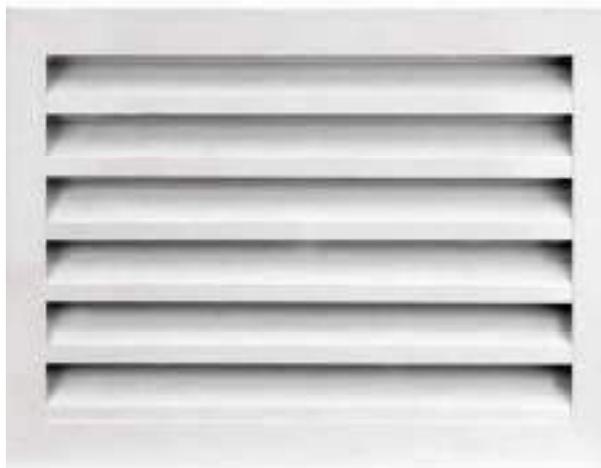
Can be added if required. Butterfly Damper **(RAL 9005)** type attached to the top side of the Diffuser by rivets.

Finish :

Electrostatic powder coating is used for ECG with standard white color for the Frame and the cores **(RAL 9016)** and black color for the damper **(RAL 9005)** and other colors are available upon the request.

ANA Fresh Air Louver :

Is designed for Intake and exhaust the air in a way that protect the internal HVAC units from water and other harmful liquids caused by rain or humidity, commonly used inside wall and outdoor applications. Basically constructed from a frame and a horizontally fixed blades.



ANA FAL Construction

Frame :

Constructed from Aluminum Sheet alloy **6063**, with a thickness of **(1.2 mm)** and other gauges are available for heavy duty.

Blades :

Constructed from extruded Aluminum alloy **6063** in (Z) shaped blade. fixed to the frame using screws and arranged with Fixed distances between each two blades **(35 mm)**, with an angle of **32°**.

Finish :

Electrostatic powder coating is used for FAL with standard white color for the Frame and the Cores **(RAL 9016)** and other colors are available upon request.

ANA Volume Control Dampers :

Designed for efficient air control and balancing within HVAC, basically manufactured from a body and tightly attached blades, hand controlled or actuated blades operation.



ANA VCD Construction

Body :

Constructed from Galvanized Steel **G90** with a thickness of (**gauge 16**), With Openings for the bushings, stopper (landing angle) and a side linkage for efficient blades control.

Blades :

Constructed from Galvanized Steel **G90**, attached with a shaft and connected to the body with plastic bushings for smoother operation, different linkage for each operation type and either hand operated (zinc plated steel) or actuated (motorized).

Finish :

Mill galvanized steel **G90**.

ANA Fire Dampers :

Fire Dampers are designed to protect internal HVAC units from excessive heat and to reduce fire spread by blocking the fire from traveling to other duct branches.



Model AF-CFD
meets the require-
ments for fire
dampers established
by
Underwriters
Laboratories
standard 555
(Listing # R38502)

ANA FD Construction

Body :

Constructed from Galvanized Steel **G90** thicknesses depends on the design and model, designed to prevent the fire from passing through to other ducts, wall and floor.

Blades :

Constructed from Galvanized Steel **G90**, thicknesses depends on the design and model. Blocked from operating by a fusible link (melts at **74° C/ 165° F**).

Finish :

Mill galvanized.

ANA Fire & Smoke Damper :

Fire & smoke dampers are designed to protect internal HVAC units from excessive heat and to reduce fire and smoke spread by blocking the fire and the smoke from traveling to other duct branches.



ANA FSD Construction

Frame :

Constructed from galvanized steel sheet **G90**, with a thickness of (**gauge 16**), with opening for the bushes, stainless steel jamb seal and a stopper (landing angle).

Blades :

Constructed from Galvanized Steel **G90**, with a thickness of (**gauge 16**) attached with a shaft and connected to the body with bronze bushings for smoother operation and more reliable against fire.

Finish :

Mill galvanized steel **G90**.

PLENUM BOXES

ANA Plenum Box :

Is used in the last stage before discharging the supply air, so it is designed to insure equal distribution of air through the air outlet. Insulated by fiber glass to absorb a good amount of noise and well sealed to avoid leakage.



ANA PB Construction

Case :

Constructed from galvanized steel sheet **G90**, with a thickness of (**gauge 24**), round inlet with several sizes to fit the flexible duct, the inlet can be collar or with a spigot to control the air volume operated by internal hand quadrant. Well sealed by anti-microbial sealant to avoid leakage.

Insulation :

Fiber Glass with a thickness of (**25 mm**) and a density of (**24 Kg/m³**) for noise absorption, other thicknesses and densities are available. For hygiene purposes black rubber is used for insulation but has less capability of absorbing noise, thicknesses available is (**6.5, 9, 19 and 25 mm**).

Finish :

Mill galvanized steel **G90**.

NON RETURN DAMPERS

ANA Non Return Dampers :

One way discharge unit designed for pressurized rooms and ducts to reduce the load on Internal HVAC units and to keep the pressure levels maintained at it's maximum.



ANA NRD Construction

Body :

Constructed from Extruded Aluminum alloy Profile **6063** or Galvanized Steel Grade **90** upon customer's request.

Blades :

Constructed from Extruded Aluminum, Aluminum alloy sheet **6063 and** Galvanized Steel Grade **90** upon customer's request. fixed horizontally to the body.

Performance :

The Non Return Dampers are rated as Gravity Relief Damper (max 2000 fpm), Back Draft Damper (max 2500 fpm) and Pressure Relief Damper (max 3000 fpm)

Finish :

Electrostatic powder coating is used for gravity relief damper (wall mounted) with standard white color for the body and the blades (**RAL 9016**), Other types are mill finish.

ANA Electric Duct heater :

It is used to preheat the air passing through the duct before discharging into zones, it consists of a heating element that transfer the electrical energy into heat through resistance (heating coil) the resulting heat will be transferred to the passing air by conduction or convection.



ANA EDH Construction

Case :

Constructed from galvanized steel sheet **G90**, with a thickness of (**gauge 20**).

Coils :

Full Nichrome **N80 (80% Nickel - 20% Chromium)**, highly resistance to corrosion and oxidation with **1400° C** melting point and **900° C** operation temperature.

Safety :

Automatic and manual reset cutout switches, thermal circuit breaker, pilot switch (optional), airflow switch, disconnect switch (optional), electrical fuse and ceramic beads.

Finish :

Mill galvanized steel **G90**.

SECURITY GRILLES

ANA Security Grille :

Is designed from steel with maximum security feature with all welded construction with sleeve for the wall application and various hole sizes make the security grille as a flexible choice for security grilles with construction as per ASTM standards.



ANA SEC Construction

Face Plate :

Constructed from Steel sheet with a thickness of (**gauge 3**) and other thicknesses are available.

Sleeve :

Constructed from Steel sheet with a thickness of (**gauge 3**) and welded to the face plate. Depth of the sleeve can be provided as per project requirements (Standard 300mm).

Opposed Blade Damper :

Opposed blade dampers are provided upon request either face operated or rear operated (By screw).

Finish :

Electrostatic powder coating is used for Security grille with standard white color (**RAL 9016**) and black color for the damper (**RAL 9005**) and other colors are available upon request from the customer.



Introduction :

HVAC equipment is one of the major sources of noise in a building, and its effect on the interior acoustical environment is important. Further, noise from outside equipment often propagates to the community. Therefore, mechanical equipment must be selected, and equipment spaces designed, with an emphasis on both the intended uses of the equipment and the goal of providing acceptable sound levels in the occupied spaces of the building in which the equipment is located and in the community. Furthermore, operation of HVAC equipment causes vibrations that can propagate into occupied spaces. Vibration can create uncomfortable conditions for occupants, and often creates secondary noise sources (e.g., vibrating walls, floors, piping and ducts).

Noise propagates from the sources through the air distribution duct systems, through the structure, and through a combinations of paths, reaching the occupants. Components of the mechanical system (e.g., fans, dampers, diffusers, junctions) may all produce sound by the nature of the airflow through and around them. As a result, almost all components must be considered. Because sound travels effectively in the same or the opposite direction of the airflow, downstream and upstream paths.

Engineers installing HVAC systems therefore have to find a way of keeping the residential and commercial HVAC systems silent so they do not make distracting noise when running. Sound attenuators, also called noise attenuators or mufflers, are used to keep the systems silent.

Noise attenuators have sound absorbing insulation inside to keep the sound down. Acoustic insulation inside the noise attenuator contains millions of air pockets that absorb the acoustic energy as it passes, reducing the noise.

The insulation inside the attenuators vary in thickness and density depending on the frequency of the sound produced. Increasing the baffle thickness enhances sound attenuation, but increases the pressure drop in the HVAC system. Moreover increasing length of the sound attenuator will enhance the sound attenuation without effecting the pressure in the HVAC system.