COSMIC™

WE SHAPE THE AIR FOR YOU...

# COSMIC PRODUCTS

## COSMIC EQUIPMENTS (INDIA) PVT. LTD.

(ISO 9001 : 2015 Certified Company)

NSIC-ONICRA RATING SE-2B CERTIFIED

ISO 9001 REGISTERED

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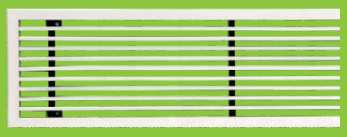
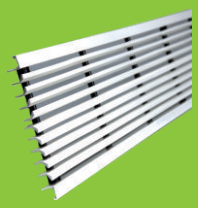
# Grilles

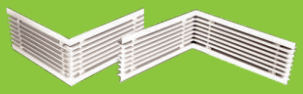


Linear Fixed Bar Grille

Four way Grille



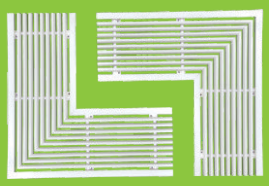
Two Way Linear Grille



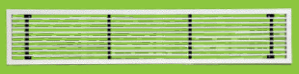
Side Throw Corners

One Way Square Grille

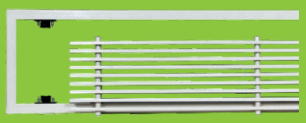
Two Way
Square Grille



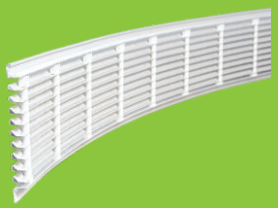
Bottom Throw Corners



Framed Grille



Removable Core Grille



Site Throw Curved Grille

Curved Grille for Round Duct

Arch Type (or) Bottom
throw curved Grilles

# Linear Fixed Bar Grilles

**APPLICATION:**

Air supply or air return in Air-conditioning, Ventilating and Heating systems.

**MOUNTING:**

Overlapped in sidewall or in false ceiling by means of hidden fixing systems as well as for continuous grilles fixing by means of concealed bridge type fixing.

**IMPLEMENTATION:**

Extruded aluminium construction. Frames with flat frontal face of 16mm, 20 mm, 25 mm or 30 mm and inner blades of 0°, 15°, 30° or 45° deflections. Available with or without end flanges as well as for standard or non standard sizes. Optional mittered corners available.

The models available in Linear Fixed Bar Grilles are One way type / Two way type, Curved Grilles and Removable Core Grilles.

**STANDARD FINISHES:**

Natural Aluminium, Anodized or Powder coated in standard RAL white colours.

# Floor Grilles

One Way Floor Grille

Two Way Floor Grille

Four Way Floor Grille

Floor Grille with VCD

**APPLICATION:**

Air supply or air return in under floor Air-conditioning, Ventilating and Heating systems. Suitable for any application under heavy foot or equipments traffic is experienced. Especially in computer server area and telecommunication centres.

**MOUNTING:**

Replacing a tile in heavy duty raised access floors or directly in an opening made in the ground.

**IMPLEMENTATION:**

Extruded aluminium construction. Frames with flat frontal face of 30mm special reinforced aluminium and inner blades of 0°, 15°, 30°, or 45° deflections. To withstand heavy load, Electro plated 12mm square fixed on the frames of the floor grille frame. Available in oneway, twoway, threeway or fourway types, with or without four quadrants type individually operated collar dampers,

**STANDARD FINISHES:**

Natural Aluminium, Anodized or Powder coated in standard RAL white colours.

Active Floor Grilles

Active Floor Grilles

Active Floor Grilles

# Active Floor Grilles

APPLICATION:

Active floor grilles with air booster fans are used in under floor airconditioning systems. Where under heavy foot or equipment traffic is experienced. Suitable for more air flow rate and high cfm or where the clusters of high density severs created hot spots in datacenters and telecommunication centres.

MOUNTING:

Replacing a tile in heavy duty raised access floors or directly in an opening made in the floor. fixing.

PARTS AND ACCESSERORIES:

- Extruded Aluminium powder coated grille.
- High quality, Heavy duty powder coated G.I. Housing frame.
- Axial fan with E.C. Motor.
- Temperature sensors.
- Controller with LED Display.
- Fan regulater for speed adjustment.

EXTRUDED ALUMINIUM GRILLE

Extruded Aluminium powder coated grille with or without collar dampers available in 0°, 15° and 30° deflection and also in one way or two way models. Collar dampers are available in extruded aluminium powder coated finish or in high quality galvanized steel. Available in any standard or non – standard sizes.

HEAVY DUTY HOUSING FRAME

High quality powder coated rein forced frame assembly to with stand heavy load, at the bottom of the frame safety mesh will be provide and having provision to fix the high cfm deliverable Axial fan.

AXIAL FAN WITH E.C. MOTOR

Fans used in this system are high quality fan with E.C. Motor. The external motor of the axial fan unit is directly integrated with axial impeller. Fan with finger guard on both sides for safety. The fan unit is mounted with wall ring and round nozzle to increase the fan static.

TEMPERATURE SENSOR AND CONTROLLER WITH DISPLAY

This system comes with temperature sensors to sense the temperature is hot and if it is more than the set temperature, Controller will switch on the fan will continusly pump the air until the set temperature is achieved.

TEMPERATURE SETTING

From 16 °c to 40 °C.

FAN SPEED REGULATOR

CFM minimum 400 to 1000 CFM

SIZES

Available in standard size for tile replacement or for any non – standard sizes also available with powder coating.

Round Grille

Round Grille with Collar Damper

# Round Grilles

**APPLICATION:**
Air supply or air return in Air-conditioning, Ventilating and Heating systems.

**MOUNTING:**
Overlapped in false ceiling by means of hidden fixing systems or directly on to the visible circular ducts.

**IMPLEMENTATION:**
Circular frame with flat frontal face of 20 mm and inner blades are cut to match the circular area. Available in 0°, 15°, 30° or 45° deflections as well as in one way or two way types. Removable cores are also made on request. For air supply screw operated two flap butterfly dampers will be fixed on the rear side of the grille. Constructed in high grade aluminium.

**STANDARD AVAILABLE SIZES:**
Available in sizes from Ø100 to Ø500mm in 50 mm increments.

**STANDARD FINISHES:**
Natural Aluminium, Anodized or Powder coated in standard RAL white colours.

# Single / Double Deflection Adjustable Grilles

Single Deflection Adjustable Grille

Double Deflection Adjustable Grille

Double Deflection Front Fixed Rear Movable Grille

Double Deflection with Customized Grille


Double Deflection Adjustable Grille with lever operated collar damper

Double Deflection Adjustable Grille with lever operated collar damper

**APPLICATION:**
Air supply or air return in Air-conditioning, Ventilating and Heating systems.

**MOUNTING:**
Overlapped in sidewall or in false ceiling by means of hidden fixing systems.

**IMPLEMENTATION:**
Extruded aluminium construction. Frames with flat frontal face of 20 mm or 30 mm and individually adjustable blades to regulate the throw of air in the pitch of 20 mm gap. Available in front horizontal back side vertical bars, both side adjustable louvers. Front horizontal with fixed bars and rear vertical with adjustable blades also available. For single deflection grille blades available horizontally or vertically in front side only. All standard or non standard sizes, with or without collar dampers can be made.

**STANDARD FINISHES:**
Natural Aluminium, Anodized or Powder coated in standard RAL white colours.

Non - Vision Grille

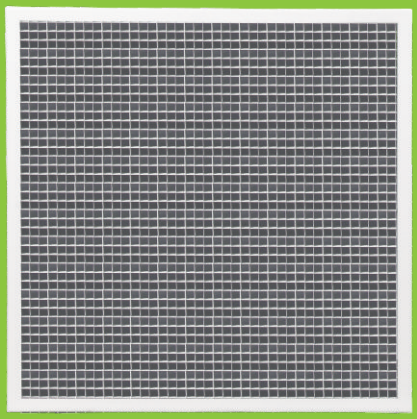
# Non-vision Or Door Transfer Grilles

**APPLICATION:**
Air supply or air return in Air-conditioning, Ventilating and Heating systems.

**MOUNTING:**
Fixing on the doors to transfer the air from one cabin to another cabin and also in the toilet
doors fixing by means of visible screws.

**IMPLEMENTATION:**
Non Vision Grilles constructed in high grade aluminium extrusions with telescopic frames and 'V' Shaped blades for air transfer. Frame with flat frontal face of 30 mm and 'V' type sight proof fixed louvers. Available in standard or non - standard sizes, to be fixed with the door thickness from 19mm to 38mm

**STANDARD FINISHES:**
Natural Aluminium, Anodized or Powder coated in standard RAL white colours.



Egg Crate Grille

# Egg Crate Grilles

**APPLICATION:**
Air supply or air return in Air-conditioning, Ventilating and Heating systems.

**MOUNTING:**
Overlapped in sidewall or in false ceiling by means of hidden fixing systems.

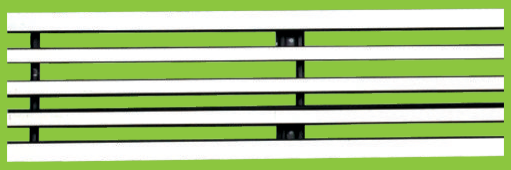
**IMPLEMENTATION:**
Extruded Aluminium construction. Frame with flat frontal face and inner netting grille of 13 mm x 13 mm made of Aluminium. Provides maximum air flow and very low noise level as the grille's free area is >90% of the nominal area.

**STANDARD SIZES:**
Available in all standard sizes up to 1200 x 600 mm.

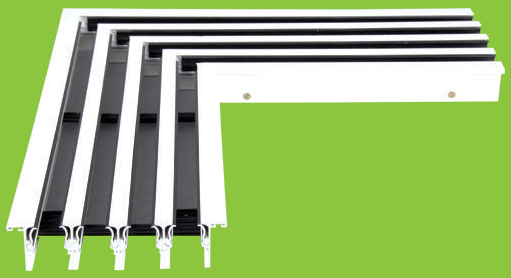
**STANDARD FINISHES:**
Natural Aluminium, Anodized or Powder coated in standard RAL white colours.

# Diffusers

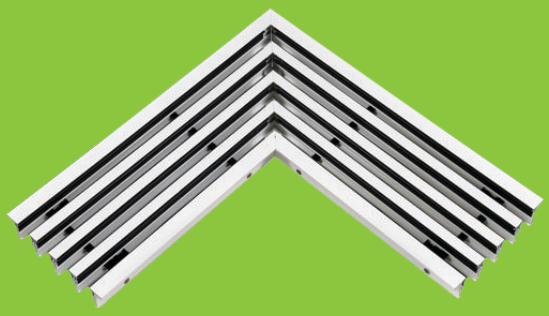
# Slot Diffusers or linear Diffusers



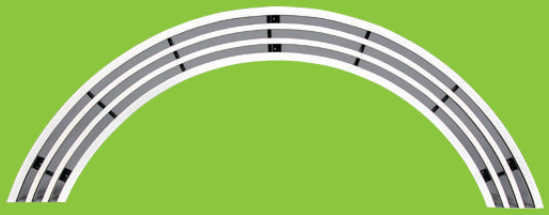
Slot Diffuser



Corner Slot



'L' Corner Slot



Curved Slot

**APPLICATION:**
Air supply or air return between 2.6mtrs and 4.0mtrs high in Air-conditioning, Ventilating and Heating systems.

**MOUNTING:**
Overlapped in false ceiling by means of hidden fixing systems. They all keep the formation of continuous line diffusers with active and inactive areas without breaking the uniformity of the slots.

**IMPLEMENTATION:**
Frames and blades are high quality extruded aluminium profiles. Frame with flat frontal face and vanes in linear layout. Hit and miss dampers available for control the air throw. Available from 1 slot to 10 slots diffuser or more on request. All standard or non-standard sizes are available.

**STANDARD FINISHES:**
Natural Aluminium, Anodized or Powder coated in standard RAL white colours.

# Techzone Slot Diffusers

Tech Zone Slot Diffusers

**APPLICATION:**

Air supply or air return in between 2.6 meters to 4.0 meters high is Armstrong Tech Zone ceiling systems to give superior performance and asthetics in Airconditioning, Ventilating and Heating systems.

MOUNTING:

Directly replacing the Armstrong Tech zone ceiling tile.

**FEATURES**

- Cosmic make Tech zone diffusers are made of high quality extruded aluminium with powder coated to standard RAL colours. Pattern
  control designed for easy adjustment of horizontal and vertical throws.

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- Cosmic make Tech zone linear slot diffusers are available in 2 slot and 3 slot configuration to suit the Tegular ceilings ( 8mm drop towards the floor) or flush armstrong ceilings. The direction of discharge can be adopted on site to the required room conditions.

- Cosmic make Tech zone slotted diffusers are available in two opening sizes 19mm and 25mm with or without hit and miss dampers
  also with standard or non-standard size plenum boxes.

**SIZES**

Cosmic make Tech zone diffusers are available in normal grid size: 600mm, 1200mm, 1800mm long and continuous run without breaking the uniformity of the slots and also available in non – standard sizes.

**STANDARD FINISHES**

Natural Aluminium, Anodized or power coated in standard RAL white colours

# Diffusers

One Way Diffuser

Two Way Diffuser

Three Way Diffuser

Four Way Diffuser

**APPLICATION:**

Air supply or air return between 2.6mtrs and 4.0mtrs high in Air-conditioning, Ventilating and Heating systems.

**MOUNTING:**

Overlapped in false ceiling by means of hidden fixing systems or replacing a false ceiling tile.

**IMPLEMENTATION:**

Extruded aluminium construction. Designed to discharge large volumes of air in all four directions with minimum pressure drop and low sound level. External frame with flat 33mm frontal face and inclined in internal core. centre cores assembly removable type to remove easily for cleaning purpose and for concealed fixing as well as for damper operation. Available in one way, two way, three way or fourway.

**SIZES:**

Standard and non-standard square and rectangular sizes are available. Both flush type and step down models will be made as per the requirements.

**STANDARD FINISHES:**

Natural Aluminium, Anodized or Powder coated in standard RAL white colours.

Tegular Diffuser

Rectangular Diffuser

Armstrong Diffuser

Tegular Armstrong Diffuser

Step Down Diffuser

Armstrong/tegular Diffuser With Vcd

Tegular Diffuser With Lever Operated Vcd

Anti-smudge Diffuser

Clipon Diffuser

# Plaque Diffusers Or Architectural Diffusers

Plaque Diffuser

**APPLICATION:**

Plaque diffuser designs ensure true omni directional air flow as well as quiet, unobtrusive operation. It gives a clean look for your commercial air distribution projects.

**MOUNTING:**

Overlapped in false ceiling by means of hidden fixing systems or replacing a false ceiling tile.

**IMPLEMENTATION**

Extruded aluminium construction $360^{0}$ air distribution offers indirect and high volume air deliverly while providing the clean asthetics prefered by the occupants, external frame with at 33mm frontal face and inclined in internal core, centre core assembly fully conseald and removeable type to remove easily for cleaning consealed fixing and damper operation purpose. Available in all standard or non standard sizes.

**STANDARD FINISHES:**

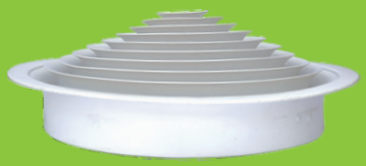
Available in natural aluminium, anodireed or powder coated in standard RAC white colours.

# Round Diffusers

Round Diffuser

Round Diffuser
With Vcd

Tile Replacement
Round Diffuser



Round Step Down Diffuser

**APPLICATION:**

Air supply or air return to different heights from 2.6 mtrs to 4.0 mtrs in Air-conditioning,Ventilating and Heating systems. High air handling capacity. Useful in modular ceiling application, where a ceiling tile can be replaced by a round diffuser of any neck size.

**MOUNTING:**

Overlapped in false ceiling by means of hidden fixing systems or revetted onto a visible circular duct as well as directly on the plenum boxes.

**IMPLEMENTATION:**

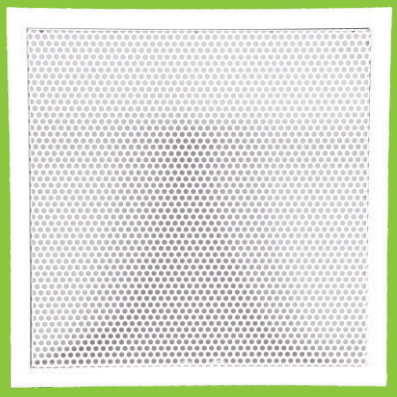
Constructed in high grade aluminium. External frame with flat frontal face and angled internal cores. Removable center core assembly can be removed easily for concealed fixing purpose and also for operating the damper by means of screws. For air supply butterfly damper can be revetted on the back side of the diffusers.

**STANDARD FINISHES:**

Available in Natural Aluminium, Anodized or Powder coated in standard RAL white colours.

Stripline Diffuser
One Way

Stripline Diffuser
Two Way



Perforated Diffuser

# Stripline Diffusers

**APPLICATION:**

Air supply or air return between 2.6 mtrs and 4.0 mtrs high in Air-conditioning, Ventilating and Heating systems.

**MOUNTING:**

Overlapped in false ceiling by means of hidden fixing systems or by means of visible screws on the flanges.

**IMPLEMENTATION:**

Extruded aluminium construction. Ideally designed for ceiling installation. High diffusion rates leading to rapid temperature and velocity equalization. Effcient and draft free horizontal air flow pattern. Frame with flat frontal face of 30 mm and 45 degree angled center blades assembly made of aluminium. Available in one way or two way , all standard and non-standard sizes.

**STANDARD FINISHES:**

Available in Natural Aluminium, Anodized or Powder coated in standard RAL white colours.

# Perforated Diffusers

**APPLICATION:**

Air supply between 2.6mtrs and 4.0 mtrs high or air return according to model in Air-conditioning, Ventilating and Heating systems. Suitable for clean rooms in Pharmaceuticals and Hospitals where laminar flow pattern is envisaged.

**MOUNTING:**

Overlapped in false ceiling by means of hidden fixing systems or replacing a false ceiling tile.

**IMPLEMENTATION:**

High quality aluminium sheet construction. External frame with flat frontal face of 30 mm and internal uniformly punched sheet. Can be available in fixed type or removable type. The perforated panel is removable to ensure easy access for cleaning of filters and air balancing. In all standard or non-standard sizes can be done as per your requirements available with or without collar dampers.

**STANDARD FINISHES:**

Available in Natural Aluminium, Anodized or Powder coated in standard RAL white colours.

# Adjustable Vanes Swirl Diffusers

Adjustable Vanes
Swirl Diffuser Cos 48

Adjustable Vanes
Swirl Diffuser Cos 24

Adjustable Vanes
Swirl Diffuser Cos 32

Small Adjustable Vanes
Swirl Diffuser 15x15

**APPLICATION:**

Square swirl diffuser with individually adjustable vanes to be used from 2.6mtrs to 4.0 mtrs high in Air-conditioning, Ventilating and Heating systems.

**MOUNTING:**

Overlapped in false ceiling by means of hidden fixing systems or directly replacing the false ceiling tile as well as directly in the plenum boxes.

**IMPLEMENTATION:**

High quality aluminium sheet construction. Slots punched in a radial layout with individually adjustable black plastic vanes on rear side. Available in standard sizes to fix with plenum boxes. Ensures a swift reduction in temperature and flow velocity by means of swirling discharge and the
addition of induction air, excellent performance that eliminates drafts and satification. Rapid entrainment and intermixing capabilities.

**STANDARD FINISHES:**

Available in Natural Aluminium, Anodized or Powder coated in standard RAL white colours.

Fixed Vanes Swirl Diffusers

# Fixed Vanes Swirl Diffusers

**APPLICATION:**

Air supply or air return between 2.6mtrs and 4.0mtrs high in Air-conditioning, Ventilating and Heating systems.

**MOUNTING:**

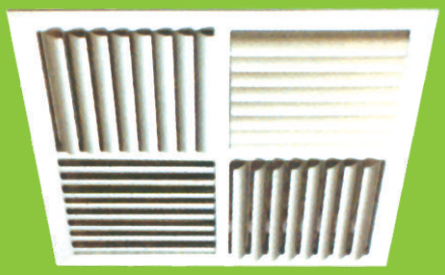
Directly to the plenum box by means of hidden fixing systems or replace the false ceiling tile.

**IMPLEMENTATION:**

High quality aluminium sheet construction. Ensure a swift reductions in temperature and flow velocity by means of swirling discharge and the addition of induction air, excellent performance that eliminates drafts and stratification. Rapid entrainment and intermixing capabilities. Aluminium
square sheet uniformly punched in a radial layout. Standard outer size of 595 x 595 available with the inner sizes of 21" dia

**STANDARD FINISHES:**

Available in Natural Aluminium, Anodized or Powder coated in standard RAL white colours.



Curved Vanes Swirl Diffuser

# Curved Vanes Swirl Diffusers

**APPLICATION:**

Air supply between 2.6mtrs and 4.0mtrs high in Air-conditioning, Ventilating and Heating systems. Modern and stylish design, available to suit tile replacement applications.

**MOUNTING:**

Overlapped in false ceiling by means of hidden FIxing systems or directly to the plenum box to replace the false ceiling tile.

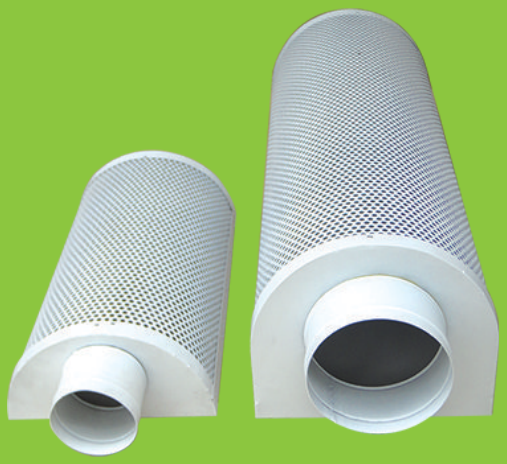
**IMPLEMENTATION:**

High quality extruded aluminium construction. Frame with flat frontal face of 30mm with inside adjustable curved blades to adjust the air throw, available in oneway, twoway, threeway or fourway adjustable types in standard sizes. Delivers signicantly higher air charge rate as
compared to conventional diffusers. Excellent performance that eliminates drafts and stratication.

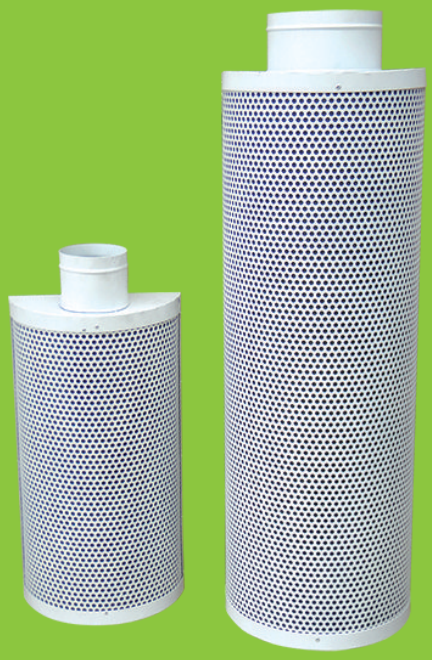
**STANDARD FINISHES:**

Available in Natural Aluminium, Anodized or Powder coated in standard RAL white colours.

# Displacement Diffuser



Displacement Diffusers



Displacement Diffusers

**Application:**

Air supply or Air return in to large spaces. Suitable for use in both industrial and comfort applications like shops, schools and industrial areas in Airconditioning and ventilating systems. In contrast to the well known principle of mixed air flow to achieve the highest possible induction with the principle of displacement flow it involves extract air being taken out at high level. By regularly distributing the displacement diffusers even large halls can have economic airconditioning without draughts.

**Mounting:**

will be fixed in wall mountings and floor mounting with fixing brackets or should be connected with the ducts.

**Parts and materials of construction:**

Displacement diffusers consists of the outer casing, top cover, base plate airconnection Spigot, air control elementand fixing brackets. Outer casing and Aircontrol element of displacement diffusers are high quality aluminium perforated sheet.

Top cover, base plate, spigot connections and air control element displacement diffusers generally made from high quality aluminium with or without powder coating finish. Galvanised steel construction also available on request. Fixing brackets are made from galvanized steel constructions.

**Models and sizes:**

The cosmic make displacement diffusers are available in the following models.

- Semi spherical displacement diffusers suitable for 180° wall mounting.
- Quarter circle model 90°suitable for corner installations.
- Round type displacement diffusers for duct suspended type and for free standing type.
- Polygon shape also available in 90°,180°and 360°models.
- Rectangular types of plenum types used in for underneath stairways is theaters and

All the models can be made in to any standard or non standard sizes.

**Standard Finishes:**

Available with powder coated in to standard RAL White colours or without powder coating.

Jet Diffusers

Jet Diffusers with Panel

# Jet Diffusers

**APPLICATION:**

Jet diusers are to be used for very high ceilings like Airports, Cinema theatres, Shopping malls, Exhibition halls and high roofing industries. For ceiling mounting supply of large quantities of air or side wall installation with very long throws. High air handling capacity with low noise level.

**MOUNTING:**

Fixing by means of visible metal screws on flanges in sidethrow or to be fixed directly with plenum boxes.

**IMPLEMENTATION**

Frame and inner rings are made of high quality aluminium . Jet diffusers are mounted in aluminium square plate covered by flanged border. Di ffusers can be adjustable 30° upwards or downwards to achieve required throw as per site conditions.

**STANDARD FINISHES:**

Available in Natural Aluminium, Anodized or Powder coated in standard RAL white colours.

Drum Jet Diffuser

Drum Jet Diffuser

Spot Diffusers

# Drum Jet Diffusers

**APPLICATION:**

These diffusers are designed to handle large air volumes on comparatively long throws. They are idealy suited for exposed duct or sidewall applications in large open spaces such as warehouses, factories, auditoriums, sports Halls and swimming pools etc.

**MOUNTING:**

Fixing by means of visible metal screws on flanges in side throw or to be fixed directly with plenum boxes.

**IMPLEMENTATION**

A frame with flat frontal face, outer casing of fully extruded and connected with aluminium sheet and inner blade assembly. The angle of dischange can be adjusted through 60° available with or without diffuser mounted opposite blade collar damper available in all standard and nonstandard sizes.

**STANDARD FINISHES:**

Available in natural aluminium, anodised, (or) powder coated in standard RAL white colours.

# Spot Diffusers

**APPLICATION:**

Air supply into large spaces like Airports, Cinema theatres, Shopping malls and in high roofing industries. They are specially designed to achieve a long throw in Air-conditioning, Ventilating and Heating systems.

**MOUNTING:**

Overlapped in the false ceiling by means of hidden fixing systems or revetted on to visible ducts according to the requirements.

**IMPLEMENTATION**

External ring with a flat circular and spherical inner nozzle manually adjustable to any desired angle within ± 40°. Using the mechanical principle of ball and socket joint made of aluminium and available in the sizes of Ø 75, Ø 100, Ø 200, Ø300 & Ø400mm respectively with or without collar dampers.

**STANDARD FINISHES:**

Available in Natural Aluminium, Anodized or Powder coated in standard RAL white colours.

# Jet Nozzles

Jet Nozzle

Jet Nozzle

Jet Nozzle with Panel

**APPLICATION:**

Air supply into large spaces like airports, large halls, ware houses, shopping malls, cinema theatres, concert halls, museums etc., Cosmic jet nozzles are special in so far as they can achieved a long throw in Air – Conditioning, Ventilating and Heating Systems

**MOUNTING:**

Overlapped in false ceiling by means of hidden fixing system or directly revetted on to a visible circular duct and also in rectangular ducts by means of multi nozzles frames

**IMPLEMENTATION:**

External ring with a curved profile and spherical inner nozzle using the mechanical principle of eye ball (ball and socket principle) engineered to swivel 360°. Made of high quality aluminium

**STANDARD FINISHES:**

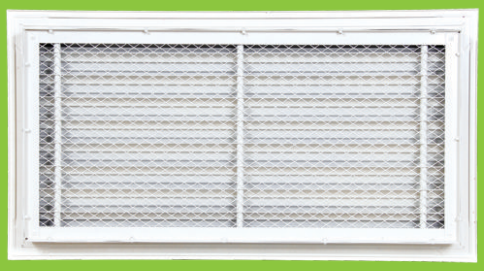
Available in Natural Aluminium, Anodised or powder coated in standard RAL white colours

# Louvers

# Louvers

Louver

Heavy Duty Louver



Louver with Bird Screen

**APPLICATION:**

Outdoor installation to take the air from the exterior or to expel the used air in Air-conditioning, Ventilating and Heating systems. Louvers are designed to prevent rain penetration.

**MOUNTING:**

Overlapped in the wall by means of visible screws or side frames to fix in place.

**IMPLEMENTATION**

Frame with flat frontal face of 30mm and inner fixed blades inclined at 45°, from 27 to 32mm pitch according to sizes. Diamond mesh of 13mm x 13mm fixed on back side of the louver to avoid the entrance of foreign bodies into the installation. Provides a neat external appearance to the building. Available in standard or non-standard sizes.

**STANDARD FINISHES:**

Available in Natural Aluminium, Anodized or Powder coated in standard RAL white colours.

# Gravity Louvers

Gravity Louvers

Round Gravity Louvers

**APPLICATION:**

Air expelling in Air conditioning, Ventilating and Heating systems.

**MOUNTING:**

Overlapped in the wall by means of visible screws.

**IMPLEMENTATION**

Frame with flat frontal face of 30 mm and inner leaves of aluminium sheets connected by means of metal screws with the frame. Recommended along with exhaust fan installation louvers to open when fan is in operation at duct branches. Designed to prevent rain penetration. Standard or non-standard sizes also available.

**STANDARD FINISHES:**

Available in Natural Aluminium, Anodized or Powder coated in standard RAL white colours.

# Sand Trap Louvers

Sand Trap Louver

Sand Trap Louver

**APPLICATION:**

Sand trap lovers are designed to be used as a primary filter for fresh air intakes in areas where air born sand or dust are prevalent of air handling units, Roof top fresh air units and fresh air intakes industrial pollutions.

It has a high degree of separation of sand and dust particles even incase of high dust concentrations. Vertically arranged blades and drain holes for sand or dust drainages ensure that the sand trop louver is self cleaning and maintenance free.

**MOUNTING:**

Fixing by predrilled face fixing holes or rear mounted concealed fixing with legs.

**MATERIAL OF CONSTRUCTION:**

**Outer Casing**: 1.2mm thick 30mm flaged, High quality aluminium outer frames on all sides as a standard or higher thickness can be used for larger sizes.

**Inner Blades** : Vertically mounted fixed core. Channel 1.2mm thick x 75mm or 1.2mm x 100mm Sizes accordingly to suit the required sizes of the louver.

**IMPLEMENTATION:**

Tow rows of vertically arranged channels sections to form a form for the air path. Base frame on the outer casing has drain holes for the sand ensuring the louvers is self clearing and maintenance free.

**Models Available:**

Cosmic make sand trap louvers are available in the following models

1. Sand trap louvers with bird screen
2. Sand trap louvers with filter provision
3. Sand trap louver with volume control dampers.

**STANDARD FINISHES:**

Available with powder coated in standard RAL White colors or without powder coating.

# Disc Valves

Disc Valves

**APPLICATION:**

Air Valves are with adjustable core for air supply or air return in Air-conditioning, Ventilating and Heating systems.

**MOUNTING:**

Fixing by means of 'S' clip for concealed fixing.

**IMPLEMENTATION**

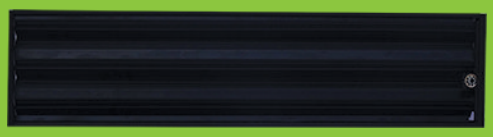
Frame and disc are made of galvanized steel. Disc attached to the frame by means of threaded rod. Air flow can be adjusted by regulating the Disc up or down. Available in 100mm, 150 mm and 200 mm inner sizes.

**STANDARD FINISHES:**

Powder coated in standard RAL white colours.

# Dampers

Collar Dampers



Collar Dampers

Pressure Relief Dampers

# Collar Dampers

**APPLICATION:**

Suitable to control the volume of air behind the grilles or diffuser in Air-conditioning, Ventilating and Heating systems.

**MOUNTING:**

Installed in ducts by means of metal screws or revetted directly behind the grilles or diffusers.

**IMPLEMENTATION**

Helps in adjusting air volumes to ensure balancing as per envisaged design. Smooth and easy operation. A black frame of 40 mm depth and inner blades assembly. Available in aluminium, G.I. and mild steels as well as in screw operated or lever operated types. Aluminium Collar dampers are opposite blades operated and mild steel dampers are parallel blades operated. Can be made for any required sizes. Round buttery type collar dampers are also available.

**STANDARD FINISHES:**

ALUMINIUM: Natural Aluminium, Anodized or Powder coated in black colour.
MILD STEEL: Painted in black or Powder coated in black colour.
Galvanized steel: G.I. finisher black painter / powder coated

# Pressure relief Damper

**APPLICATION:**

For low pressure relief applications from 5 to 75 pascals in air-conditioning, ventilating systems. Used for room pressure control or a basic non-return valves.

**MOUNTING:**

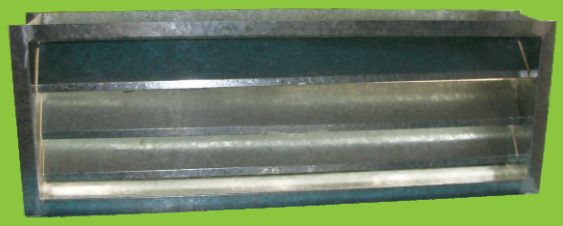
Mounted on unit mouths and ducts or on the valves by using bolt and nut systems.

**IMPLEMENTATION**

Frames are constructed in galvanized steel and blades in galvanized and also in high grade aluminium sheets. Frames are either flanged for surface or in channel frame for sleeve. Blades are connected by means of screws or rods with the frame. Available in outwards airflow or in inwards airflow types.

**STANDARD FINISHES:**

Galvanized steel finish or aluminium with or without powder coated.



Back Draught Dampers

# Back Draught Dampers

**APPLICATION:**

For pressure relief applications upto airvelocities of 10 m/sec in air-conditioning, ventilating systems. Used for room to room pressure control or a basic non-return valves.

**MOUNTING:**

Mounted on unit mouths and ducts or on the valves by using bolt and nut systems.

**IMPLEMENTATION**

Frames are constructed in galvanized steel and blades in galvanized and also in high grade aluminium sheets. Frames are either flanged for surface or in channel frame for sleeve. Blades are connected by means of screws or rods and bushes with the frame. All the blades are connected by a proper link arrangements to avoid noise. Available in outwards airow or in inwards airflow types.

**STANDARD FINISHES:**

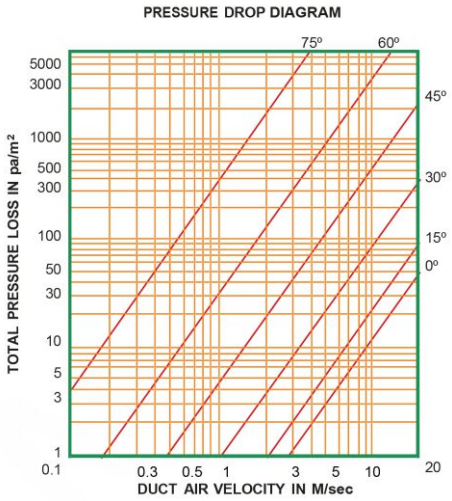
Galvanized steel finish or aluminium with or without powder coated.

# G.I. Volume Control Dampers

Duct Damper with Actuator

Duct Damper with Manual Handle

Duct Damper with Motor Fixing Rod




**APPLICATION:**

Suitable to control the air volume in ducts in air conditioning. Ventilation and heating systems. Ensures duct system air balancing and also suitable to use in Air handling units, where high air velocities and pressures are encountered.

**MOUNTING:**

Mounting in the branches of air distribution ducts and mouth of the air handling units by means of bolt and nuts.

**Construction Details**

**Frames:** High quality galvanized steel frame with standard flange size of 30mm having standard depth of 150mm or as per the client's requirement depth and flange sizes.

**Blades:** High quality galvanized steel 'V' grooved blades having 150mm height or as per client requested height blades.

**Linkage Details:** Standard 3mm thick x 20mm Electro Plated Linkages

Spindles and bearings: Outer Ø 14.5 mm / Inner Ø 9.3mm Electro plated EN-1A bush bearings and Ø9.2mm x63mm long electro plated spindle rods or brass bushes as per client's requests.

**Locking Quadrants:** for manual operated VCD's Heavy gauge galvanized steel handle position indictor with locking screws.

Motorized volume control dampers are supplied with high quality knurling electro plated shaft and motor fixing bed provisions to mount the actuator. VCD's will be supplied with suitable torque / model actuators as per client request

**Implementation**

Frame with flat frontal face and inner 'V' grooved multi blades assembly. Frames are welded and inner blades are connected to the frame by means of spindle rods and bushes. Bushes are available in brass / bronze. All blades are connected by a suitable flat link arrangement with handle to operate the dampers in opposed blades type operation with status indicator lockable screws indicating open or closed position. Available in manual control or motorized control operations, as well as in standard or Non-Standard sizes also available. For motorized operation extended spindle rod will be provided to fix the motor. Actuators available with various torque capacities to meet the large size requirements.

**Standard Specification available:**

**Standard Specification of the VCD'S**

| G.I VCD Model | 16/16 | 16/18 | 18/18 | 18/20 |
|---|---|---|---|---|
| Outer casing | 16S SWG (1.6mm thick ) | 16S SWG (1.6mm thick ) | 18S SWG (1.2mm thick ) | 18S SWG (1.2mm thick ) |
| Inner Blade | 16S SWG (1.6mm thick ) | 18S SWG (1.2mm thick ) | 18S SWG (1.2mm thick ) | 18S SWG (1.0mm thick ) |

**Available Sizes**

Available in minimum for 100x100 mm to maximum any standard or Non Standard sizes

# G.I. Oval Duct Damper

GI Oval Duct Dampers

**APPLICATION:**

Suitable to control the air volume in oval ducts in air conditioning. Ventilating and heating systems. Ensures duct system air balancing.

**MOUNTING:**

Mounting in the branches of air distribution oval duct by means of Screws.

**CONSTRUCTION DETAILS**

**Frames:** High quality galvanized steel frame as per the client's requirement depth.

**Blades:** High quality galvanized steel 'V' grooved blades as per client requested height blades

**Linkage Details:** Standard 3mm thick x 20mm Electro Plated Linkages

**Spindles and bearings:** Outer Ø 14.5 mm / Inner Ø 9.3mm Electro plated EN-1A bush bearings and Ø9.2mm x 63mm long electro plated spindle rods or brass bushes as per client's requests.

**Locking Quadrants:** For manual operated VCD's Heavy gauge galvanized steel handle position indictor with locking screws.

Motorized volume control dampers are supplied with high quality knurling electro plated shaft and motor fixing bed provisions to mount the actuator. VCD's will be supplied with suitable torque / model actuators as per client request.

IMPLEMENTATION

Galvanized Steel oval shape outer casing as per the standard oval sizes or as per the template given, 'V' Grooved blades assembly. Welded outer casing and inner blades are connected to the frame by means of spindle rods and bushes. Blades connected by a suitable link and handle to operate the damper with status indicator lockable screws indicating open or closed position. Available in manual or Motorized Control Operations. Available in standard or Non- Standard sizes. For motorized operations extended spindle rod will be provided to fix the motor. Actuators are available with various torque capacities to meet the large size requirements.

**STANDARD SPECIFICATION AVAILABLE:**

| G.I VCD Model | Outer casing | Inner Blade |
|---|---|---|
| 16/ 16 | 16SWG (1.6mm thick ) | 16SWG ( 1.6mm thick ) |
| 16 / 18 | 16SWG ( 1.6mm thick ) | 18SWG (1.2mm thick ) |
| 18 /18 | 18SWG (1.2mm thick ) | 18SWG (1.2mm thick ) |
| 18/20 | 18SWG (1.2mm Thick) | 20SWG (1.0mm thick ) |

**Available Sizes**

Available in Any standard or Non Standard sizes

# Aluminium Volume Control Dampers

Aluminium Volume Control Damper

**APPLICATION:**

Suitable to control the air volume in ducts in air conditioning, ventilating and heating systems. Ensures duct systems air balancing and also suitable to use in air handling units, where high air velocities and pressure are encountered.

**MOUNTING:**

Mounted in the branches or air distribution ducts and also in the mouth of the Air handling units by means of bolts and nuts.

**IMPLEMENTATION**

Frames and blades both are high quality extruded aluminium sections. The frame with flat frontal face to suit for flanged connections with the ducts. Frames are fixed by screws and inner blades are aerofoil type. Frames and blades are connected by means of nylon bushes and rods with gear for smooth operation in case of larger size AHU dampers, blades are connected by means of machined spindles, bushes with flat link arrangements, air volume adjusted by a lockable quadrant with status indicator, lockable screws indicating open or closed position. Available in manual control or motorized control operations, as well as in standard or non-standard sizes also available. For motorized operation extended spindle rod will be provided to fix the motor. Actuators available with various torque capacities to meet the larger sizes requirments.

**STANDARD FINISHES:**

Available in Natural Aluminium anodised or in powder coated.

# Aluminium Low Leakage Volume Control Dampers

ALUMINIUM VOLUME CONTROL DAMPERS

**APPLICATION:**

Suitable to control the air volume in ducts in air conditioning. Ventilating and heating systems.Ensures duct system air balancing and also suitable to use in Air Handling units, where high air velocities and pressures are encountered.

**MOUNTING:**

Mounting in the branches of air distribution duct and mouth of the air handling units by means of bolt and nuts

**STANDARD CONSTRUCTION DETAILS**

**Frames:** 1.6mm thick high quality Extruded Aluminium frame with standard flange size of 30mm
and having standard depth of 141mm

**Blades:**1.2mm thickness x 2 sides high quality Extruded Aluminium Aero foil blades.

**Linkage Details:** Nylon Bushes and rods with PVC Gears or for large size dampers.

**Locking Quadrants:** Heavy gauge galvanized steel position indicator with locking screws or electro plated locking quadrant and position indicator with cosmic logo.

**Motorized volume control dampers:** Supplied with high quality electro plated EN.1A Square rod and motor fixing bed provisions. VCD's will be supplied with suitable torque / model actuators as per client request.

**S.S Jamseals:** Stainless steel jam seals (compression type)are provided in both sides of
frame(inner side ) to prevent leakage and also Rubber Gaskets are provided in each and every blade
to prevent leakage..

**IMPLEMENTATION.**

Frames and blades both are high quality extruded aluminium sections. The frame with flat frontal face to suit for flanges connections with the ducts. Frames are fixed by screws and inner blades are aerofoil type. Frames and blades are connected by means of nylon bushes and rods with gear for smooth operation, air volume adjusted by a lockable quadrant with status indicator, lockable screws indicating open or closed position. Available in manual control or motorized control operations, as well as in standard or non-standard sizes also available. For motorized operation extended spindle rod will be provides to fix the motor. Actuators available with various torque capacities to meet the larger sizes requirements.

**AVAILABLE SIZES**

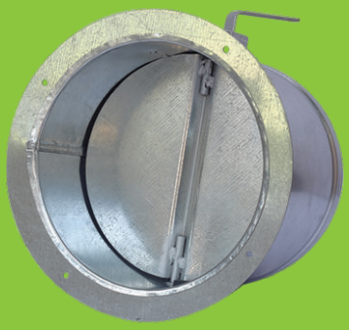
Available in minimum from 100 x 100mm to maximum any standard or Non Standard sizes

**STANDARD FINISH**

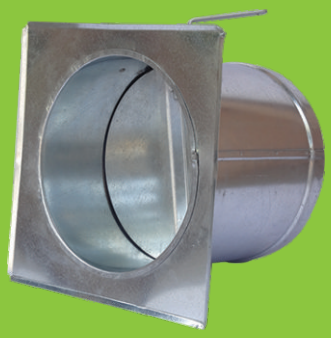
Natural Aluminium or in powder coated.

# Round Volume Control Dampers

Round Duct Damper
with Groove



Round Duct Damper
with Round Flange



Round Duct Damper
with Square Flange

**APPLICATION:**

Suitable to control the air volume in Air distribution ducts in Air conditioning, ventilating and Heating systems. Ensures duct systems air balancing.

**MOUNTING:**

Mounted in the branches of air distribution Round ducts by means of bolts or by hidden fixing systems.

**IMPLEMENTATION**

Frame and blade both are Galvanised steel sheet. Frame joints made by welding or by Ducting mulcut method. Two grooves are formed on both the ends for hidden fixing systems. Blade and frame connected by bushes and spindles. With the handle for manual operation Air volume adjusted by a lockable quadrant with status indicator, indicating open or closed position. For motorized operation extended spindle will be provided to fix the motor. Available with actuator or without actuators.

**STANDARD FINISHES:**

Galvanised steel with Aluminium paints and available in high quality aluminium.

# Fire And Smoke Dampers

Fire Damper
With Motor

Fire Damper
With Motorfixing Rod

Fire Damper
With Fusible-link

**APPLICATION:**

Cosmic range of fire and smoke dampers are tested and certified for 120 mts fire rated as per UL-555 standards by CBRI Roorkee and they are designed to prevent the free passage of smoke and fire in the air distribution ducts in Air conditioning and ventilating systems. Fire dampers are available with or without extended sleeve models.

**MOUNTING:**

Fire damper without sleeve model are fixed for duct mounting and the extended sleeve fire dampers are suitable for wall mounting by means of bolts and nuts.

**CONSTRUCTION DETAILS**

Frames : 1.6mm thick high quality galvanized steel frames having 150mm depth for without sleeve model and 165mm depth for with extended sleeve model fully welded and robust construction.

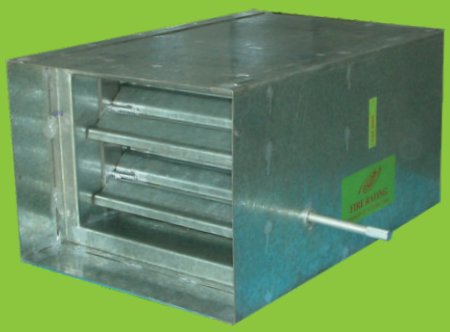
Blades : 1.6mm / 1.2mm thickness high quality galvanized steel heavy duty inter locking 'V' grooved blades having standard 150mm depth

Extended Sleevess : 1.6mm/1.2mm high quality galvanized steel sleeve with welded construction sleeve length available for 300mm to maximum 800mm long.

Spindles and bearings : Ø 9.3x63mm chrome plated spindles with self lubricated Ø 14.5xØ 9.3 brass bushes for all of our fire and smoke dampers.

S.S Jam seals : Stainless steel gaskets are provided in the both sides to prevent spread of smoke and fire in the damper.

Fire Damper
With Sleeve



Fire Damper
With Sleeve

Round Fire
Damper

**IMPLEMENTATION:**

Frame with flat frontal face and inner 'V' grooved type multi blades assembly. Frames are welded and inner blase are connected to the frame by means of spindle rods and bushes. Bushes are available in brass. All blases are connected by a suitable flat link arrangement. The dampers are also provided with S.S Concealed jam seal (compression type) on the sides to prevent spread of smoke and fire. Available in three model as follows fire dampers with shutting mechanism by thermal fusible link, Motorized fire dampers with spring return Actuator, Control panels and motorized fire damper with extended sleeve type especially for mounted on the walls. In this sleeve model the damper actuators and optional accessories are normally externally mounted on one side of the dampers sleeve, these items are kept on the right side of the sleeve normally. (Right side mounting) as on request they may be kept on left hand side of the sleeve also (left side mounting)

**CONTROL OPTIONS :**

Dampers are available with UL 555 - Fusible Link with spring mechanism or with electrical actuators operations.

**FUSIBLE LINK AND SPRING MECHANISM :**

The damper is held open by a UL 555 stamped fusible link and spring fixed with flat link arrangement if the temperature in the damper increased more the 74° C the fusible link will be shuttling close damper with spring action.

Fire and Smoke damper with actuators mechanism, control panel and temperature sensor

The damper is kept open by the actuator, signal received from the smoke detector fire panel or temperature sensor through the control panel. The actuator will close the damper. If the actuator is spring return model when the power is not available during smoke and fire condition the spring return actuator shall shut the damper.

**Available Sizes :**

Sizes available from minimum 200x200mm to maximum in any standard or Non standard sizes.

1 . Actuator torque recommended of Fire Dampers

Siemens Make Actuator

A ) Damper Area Upto 0.9 Sqmtrs – 7 NM Torque Spring Return Type

B ) Damper Area From 0.9 Sqmtrs To 2.4 Sqmtrs – 18NM Torque spring return type

Belimo make actuators

A ) Damper area upto 0.6 Sqmtrs – 4 NM Torque Spring Return Type

B ) Damper Are From 0.6 Sqmtrs To 1.5 Sqmtrs – 10NM Torque spring return type

CONTROL PANEL FOR SMOKE AND FIRE DAMPERS

FEATURES

( a ) ACTUATION SYSTEM

Actuators ( spring return or non – spring return ) and soleniods of any make can be controlled from the control panel . Connections 1,2,3,4,5 & 6 of in the control panel are used for the purpose . Please refer to DAMPER ACTUATOR Connections in the connections diagram for further details.

( b ) AIR HANDLING UNIT ( A.H.U ) INTERLOCKINING

A.H.U. Fans can be easily put on or put off automatically with the help of control panel. Please refer to A.H.U Connections in the connections diagram for further details.

( c ) WARNING SIGNAL CONNECTIONS

A hooter / Alarm / flasher can be easily put on or put off automatically with the help of control panel . Please refer to ALARM Connections in the diagram for further details.

( d )EXTERNAL PANEL ( FIRE PANEL ) CONNECTIONS

The control panel can be easily connected to any external panel (fire panel). A normally closed point (N/C) and a common point (com) of any operative relay on the external panel (fire panel) may used for this purpose. Note that these relay points should be at panel Zero potential. Please refer to EXT. Connection in the diagram for further details.

( e ) HEAT DETECTOR CONNECTIONS

Heat detector is nothing but a thermal fuse . after reaching a particular temperature , this fuse blows off . the control panel senses the blowing off of the heat detector and puts off the A.H.U. fans , put on the warning signal and close the damper with help of an actuator / solenoid . Please refer to TEMP. Connections diagram for further details .

( f ) SMOKE DETECTOR CONNECTIONS

Smoke detector , after sensing smoke , produce an alarm signal which is captured by the control panel automatically puts off the A.H.U. fans by breaking the power supply to A.H.U . and also puts on the warning signal to actuator the supply to a hooter / alarm / flasher . The control panel also gives a closing signal to the actuator / solenoid which closes the damper . Please refer to smoke sense connections in the connection diagram for further details .

( g ) RESET BUTTON ( FOR MANUAL OPERATION )

The damper can be opened or closed with help of a PUSH BUTTON provided to the face of the control panel .

( h ) INDICATION

( 1 ) POWER INDICATION

A red lamp indicates the presence of power supply .

( 2 ) DAMPER OPEN INDICATION

Indicates the status of damper position i.e. open .A green lamp glows if the damper is open .

( 3 ) DAMPER CLOSED INDICATION

Indicates the status of damper position i.e. closed . A yellow lamp glows if the damper is closed

Please note status of damper position i.e. closed ( open / closed ) shall be available only if either AUX . Contacts of the actuator or micro switch contacts are connected to connections nos . 4,5&6 in the control panel .

( 4 ) Indicates warning immediately , once control panel receives a signal of smoke or fire or both . A red lamp glows for this purpose.

COMPATIBILITY

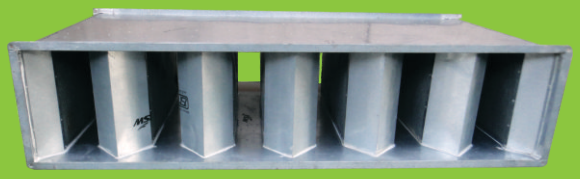
The control panel can be easily connected to the reputed actuator makes such as
BELIMO , STAEFA ( SIEMENS ) , JOVENTA , HONEYWELL etc .....

Solenoids of CULTER – HAMMER or any other make can be easily connected to the control panel.

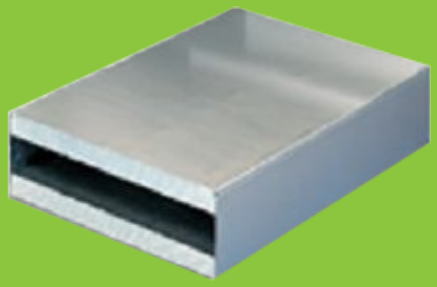
ELECTRICAL PARAMETERS

( a ) Operating voltage = 24V
( b ) Power Consumption < 0.8
For non – spring return actuators, use connections nos . 1 , 2 , 3 , 4 , 5 , & 6.
Damper status indications ( open / close ) shall be available only if either AUX .
Contacts or microswitch connections are done at points 4 , 5 & 6 .

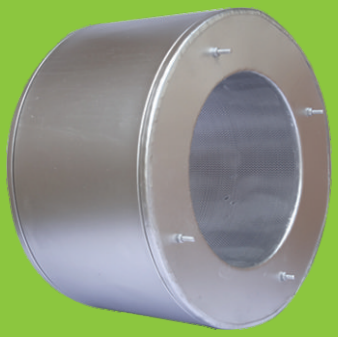
# Sound Attenuators



Sound Attenuator



Straight cross talk silencer



Circular Attenuator

Noise control in air conditioning systems is in many cases just as the critical as the environmental conditioning itself. Sound is transmitted through the ducts systems by the fans and also generated by some of the duct mounting elements and accessories. Sound attenuators are designed for attenuation of fan noise in ventilation and air conditioning systems. A sound attenuator is a multi variable system, it consists of an arrangement of duct mounted absorbent splitters arranged with air flow passages between them.

Attenuation is achieved by reflection, impedence and absorption type. The absorption type attenuators are dependent upon

- Attenuator Width
- Attenuator Height
- Attenuator length
- Thickness of attenuation splitter
- Distance between the splitter (or) air way gap
- Number of attenuation splitter

Sound absorpting type attenuators works by directing the air flow containing the unwanted noise through series of highly sound absorptive passages of various length and width of casing. The sound energy to be dissipatted by the sound absorpting media while allowing the air flow relatively unimpeded. The length and the ratio of width to height relative to the frequency of the sound determines the amount of sound attenuation or insertion loss that the silencer will provide. Generally the longer the silencer the greater the attenuation specially at the lower frequency ranges. Because the interior surface of the air flow passages are the high density fiber glass covered with R.P. Tissue and overlapped by a perforated metal and of a smaller free area than the originating duct work. Friction is encountered that results in increased resistance. This is known as Static Pressure or Pressure Loss in the attenuator.

Noise is defined as objectionable or unwanted sound. Fan noise is generated by a turbulence with the fan housing and will vary by a fan types, flow rate pressure and fan efficiency.

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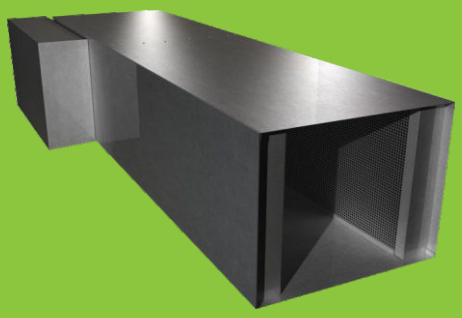
Noise from the fan inlet and outlet which is transmitted along the duct system is known as duct born noise. Sound other then the wanted signal in room acoustics, the irreducible noise level measured in the absence of any building occupants is called Back Ground Noise.

Sound other then the wanted signal in room acoustics, the irreducible noise level measured in the absence of any building occupants is called Back Ground Noise.

For the transmission or radiation of noise from some part of the duct systems to an occupied space or passing through the fan casing is called break out noise.



L Shape cross
talk silencer

U Shape cross talk silencer

Z Shape cross
talk silencer

## SOUND POWER LEVEL

It is the power of sound force on a surface of the medium of propogation of sound wave. A theoretical assessment of sound product at source calculated from the measured sound pressure levels of known distance from the source under known acoustic conditions.

## SOUND PRESSURE

Pressure variations produced when a sound wave propogate through air are extremely small when compared with atmospheric pressure. (Basically sound is a pressure variation that the ear can detect) These pressure variations are caused by a vibrating object or surface or by turbulent air or gas.

## FREQUENCY HZ

Respective, regular disturbances caused for an example by a fan blade turning of constant speed, create recurring oscillations of the same cycle of particle movement, and the number of cycles per second is referred to as frequency (F). The unit of frequency is the Hertz (1cycle/second).

## NOISE CRITERIA (NC CURVES)

A method has been developed that allows us to generate a single number to present the sound level of a device. This single number is called the NC (or) Noise Criteria and it makes allowances for the various db levels in each octave bands and human sensitivity to each of this frequency bands. Sound pressure levels are determined is each of the desired octave bands. These pressure levels are plotted on a standard NC Curve. The highest pressure when measured against the NC Curve, regardless of frequency, determines the NC of the outlet.

## DECIBEL

The unit used to measure sound. The decibel scale measurement is simply a logarithmic ratio of the measured sound pressure and an agreed reference pressure.

## OCTAVE BAND

To better analysis the characteristic of a sound it is necessary to devide the sound in to of several bands each of which contains a limited range of frequencies. The sound Pressure level is less than measured in each frequency band or octave band.

Typically for air distribution systems 63, 125, 250, 500, 1000, 2000, 4000 and 8000 H2 only considered.

| S. No. | Area | NC |
|---|---|---|
| 1 | Operation theatres, Studios, Concert Hall | 20 |
| 2 | Conference room, Private bedrooms | 25 |
| 3 | Office area, Living rooms, Conference and board meeting areas, Hotel bed rooms, Banqueting Areas, Public rooms, Hospitals | 30 |
| 4 | Middle management offices, Seminar public rooms, corridors in Hotel and Hospitals, School classrooms, Libraries, banking Areas, Bars | 35 |
| 5 | Large Open Areas, Court halls, Large restaurants, bars and night clubs, small shopping areas, laboratories, gymnasiyum | 40 |
| 6 | Shopping malls, Cafeteria, Kitchen areas in hotels, Super markets | 45 |

**APPLICATION:**

Sound attenuators can be used for the reduction of fan noise and air generated noise in Air conditioning and ventilation systems. Particularly in the area of fan inlet and discharge, Air handling units, HVAC Duct Systems, Commercial, Institution and Industrial Buildings.

**MOUNTING:**

Fixing with angle frames by means of bolts and nuts or directly connected with ducts AHU and fans mounting.

**CONSTRUCTION:**

Absorptive type splitter model rectangular Square and Elbow attenuators mainly consists of

1. Outer casing
2. Inner baffles (or) Splitters
3. Acoustic media (or) Pillar materials
4. Flanges (or) Angle frames

**OUTER CASING:**

1. Outer casing of standard rectangular, Square and Elbow Silencers shall be made of 22 gauge galvanized steel will be fabricated by lock forming method.

2. For higher thickness of outer casing of rectangular Square and Elbow Attenuators shall be made of 18 gauge or 16 gauge galvanized steel, stitch welded, stitch welds shall receive a single shop coated Aluminium paint.

3. Outer casings of standard curricular silencers shall be made of lock forming quality galvanized steel in the following gauges. (Outer dia)

   12" – 36" – 22 Gauge
   31" – 60" – 18 Gauge
   61" – 84" – 16 Gauge

**INNER BAFFLES (OR) SPLITTERS:**

Inner baffles or splitter of standard rectangular Elbow and Circular attenuators shall be made of 24 gauge galvanized steel. Fabricated in Hemispherical shape. For the requirement of large sizes as on request higher thickness baffles also available.

**ACOUSTIC MEDIA (OR) PILLAR MATERIALS**

Acoustic media (or) Pillar materials for Rectangular, Square, Elbow and Circular type attenuators can be high density fiber glass packed under compression and by R.P. Tissue protected by 26 gauge Aluminium perforated sheet or high density open cell (140 to 180kg/$m^3$) nitrile rubber can also be used as a acoustic media as per requested specification.

## FLANGES (OR) ANGLE FRAMES

Flanges or Angle Frames for the standard Rectangular, Square and Elbow type Sound Attenuators shall be with 30mm sheet flanges to suit TDF Corners or for the requirements of larger sizes of attenuators Angle Frames with matching flanges will be provided as on request.

## CIRCULAR ATTENUATOR

Interior partition for circular silencers shall be secured with galvanized steel radial mounting brackets welded to the partitions and the outer casing. The radial brackets shall be installed full length and 120°angles to each other to assume uniform spacing for consistent aerodynamic and acoustic performance.

## Available Models

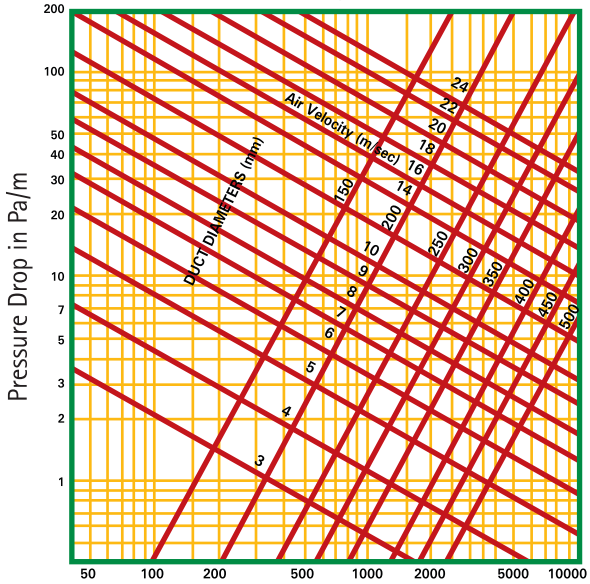
Sound attenuators are available in the following models.

1. Square type with straight tapered splitters.
2. Rectangular type with straight tapered splitters.
3. Circular type with open type.
4. Circular type with central pod type.
5. Cross talk silencer straight type.
6. Cross talk silencer 'L' type.
7. Cross talk silencer 'C' type (or) 'U' type.
8. Cross talk silencer 'Z' type.

All the sound attenuator or silencers can be made to any standard or non-standard sizes and also available in different materials and finishes as on request.

# Flexible Ducts


Pressure Drop Diagram




Cosmic Flex is used for Low / Medium / High pressure air conditioning and ventilating systems in all Commercial, Industrials, Hospitals, Hotels, Shopping Malls, Software Companies and Office Buildings.

Cosmic Flex ducts are Class I air duct manufactured by the Australian Technology and made of Aluminium laminated Double film permanently bonded to a coated spring tough steel wire helix. The Outer Jacket is made of double laminated film which acts as a vapour barrier as well.

This range has been developed to minimize the heat loss or heat gain resulting from temperature differential between the air flow and the surrounding ambient air

Cosmic flex ducts are extremely durable, Strong and will maintain dimensional stability in fully extended position and also a fire resistant with flexibility of being compressed to 10% of its extended length.

## Specification

| | |
|---|---|
| Standard Length | : 7.5 meters |
| Sizes Available | : 100 mm dia to 500 mm dia |
| Maximum Permissible Velocity | :4000 FPM |
| Temperature Range | : 0° C to 90°C (32° F to 194° F) |
| Static Pressure Positive | : 10 inches in W.G |
| Static Pressure Negative | : 1 inch in W.G |
| Insulation Density | : 16kg / M³ fibre glass |
| Standard Insulation Thickness | : 25mm |

# Circular Floor Swirl Diffusers

Circular Floor
Swirl Diffuser

Circular Floor
Swirl Diffuser

Application

Designed to use in pressurized under floor air distribution systems. Air supply is a swirling fashion. It can be used any where air is required and pressurized floor plenum is available provides a high induction discharge pattern and dynamic mixing that results in efficient velocity equalization within the occupied zone. This provides a comfortable environment for the occupants and allows the diffusers to be placed within a few feet of a seated occupant. Can be used in commercial office spaces have many areas where floor diffusers can be applied.

Mounting

Directly in an opening made in raised access floors.

Parts and Accessories

1. Circular floor swirl core
2. Damper connector
3. Flow adjustment damper
4. Dust collector
5. Carpet ring

Construction :

All parts and accessories of Cosmic Make Circular Floor Swirl Diffuser are made of Aluminium Alloy Material so that it is rigid and strong. Designed to with stand a point load up to 400 Kgs after installations.

Advantage

- Quick installation in any raised access floor using spring clips.
- All components are made of Aluminium including dust collector, making it ideal for all level of office traffic.
- High induction helical air pattern of the swirl diffuser creates. Ideal circulation without inlet pressure requirements.
- Allows occupant to control the air flow for individual comfort.
- Air volume will be adjusted by turning the swirl core.
- Relocation to another area is simple by relocating that floor panel, removal of the floor swirl diffuser from the access floor is not required.
- Dirt / dust collection receptacle can be easily removed for cleaning.

Sizes available

Available in 200 mm diameter.

Standard Finishes

Available in standard RAL White Color. Damper and dust collector will be Black Colour for other colors available on request.

High performance
Circular Swirl Diffuser
( Blade position for
horizontal air discharge)

High performance
Circular Swirl Diffuser
(Blade Position for
45 degree air discharge)

High performance
Circular Swirl Diffuser
(Blade position for
vertical air discharge)

# High Performance Circular Swirl Diffuser

Application

High performance circular swirl diffusers are designed especially for spaces with a height of more than 3.6 mtrs high with varying heat loads. Can be suitable for use in industrial and comfort conditioning environments, such as airport, theatres, auditorium, stadium and factories etc. Due to the rotary swirling motion of the air discharge. Induction of room air occurs very quickly.

Mounting

Fixed directly with plenum boxes by means of screws or directly with the round ducts.

Material of Construction and Advantages

- Cosmic Make High Performance Circular Swirl Diffuser with blades are constructed of spun aluminium sheet.
- Suitable for both horizontal and vertical throws in HVAC Systems.
- Rapid swirl discharge gives longer throw distance and high air handling capacity.
- Large dynamic and high induction suitable for cooling at very low temperature.

Available sizes

The standard available sizes are 315 mm Dia, 500 mm Dia, 400 mm Dia, 630 mm Dia and 800 mm Dia.

Standard Finishes

Available in standard RAL White Colour, other shades also available on request.

COSMIC™

*WE SHAPE THE AIR FOR YOU...*


## COSMIC EQUIPMENTS (INDIA) PVT. LTD.

(ISO 9001 : 2015 Certified Company)

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