



# Duct Castle

For Engineering Industries

داكت كاسل للصناعات الهندسية

SPECIALISTS  
WE INNOVATE

Linear Slot  
Plenum Box  
CATALOGUE

## Overview

**Plenum box** is designed to ensure equal distribution of air across the slot diffusers. The supply plenum box has acoustic lining to reduce noise generated inside the duct due to airflow turbulence before reaching the diffuser. The built-in damper can be operated from the spigot connection or from face of diffuser.



## Insulated Type.

- With 6, 9, 12, 16 and 19 mm ArmaFlex internal lining with non-flammable adhesive.
- With 25 mm thick acoustic lining with black glass tissue facing, 48kg/m<sup>3</sup> density. Acoustic lining is fixed inside the plenum box with non-flammable adhesive and mechanical fastener (cupped head pins).
- *Or as per Client Request.*

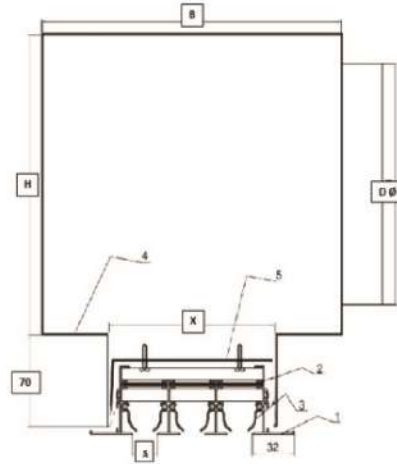
## Optional

- The Inside Insulation Covered with Galvanized Perforated Sheet Insuring Full Protection
- Includes Round Volume Control Damper



### Standard Construction

- Built of galvanized steel sheet gauge 24, conform to ASTM A653, Lock Forming Quality, G90 zinc coating.



### Standard Sizes:

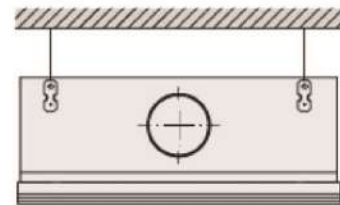
| No Of Slots | LENGTH (mm) | X (mm) |        |        | D Ø (mm) | H (mm) | B (mm) |
|-------------|-------------|--------|--------|--------|----------|--------|--------|
|             |             | S=16mm | S=20mm | S=25mm |          |        |        |
| 1           | 1200        | 50     | 55     | 60     | 203      | 300    | 120    |
| 2           | 1200        | 85     | 93     | 103    | 203      | 300    | 150    |
| 3           | 1200        | 118    | 135    | 145    | 254      | 300    | 200    |
| 4           | 1200        | 150    | 176    | 187    | 254      | 300    | 240    |
| 5           | 1200        | 185    | 205    | 230    | 305      | 360    | 290    |
| 6           | 1200        | 217    | 240    | 270    | 305      | 360    | 330    |

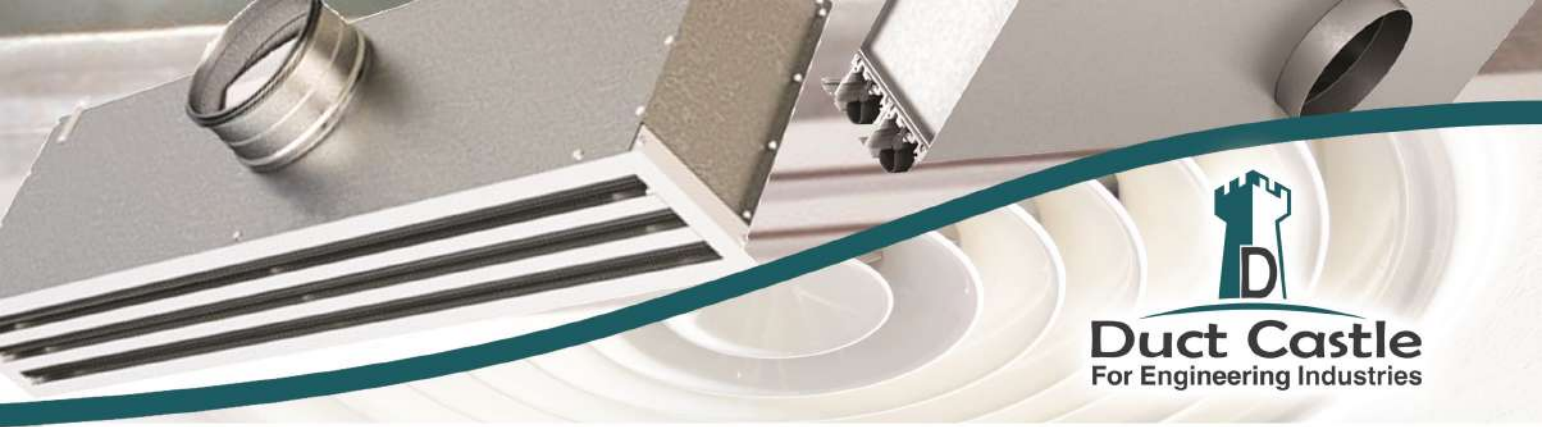
### Non Standard Sizes:

Will Be Fabricated According to recommended by the Approved air outlet manufacturer.

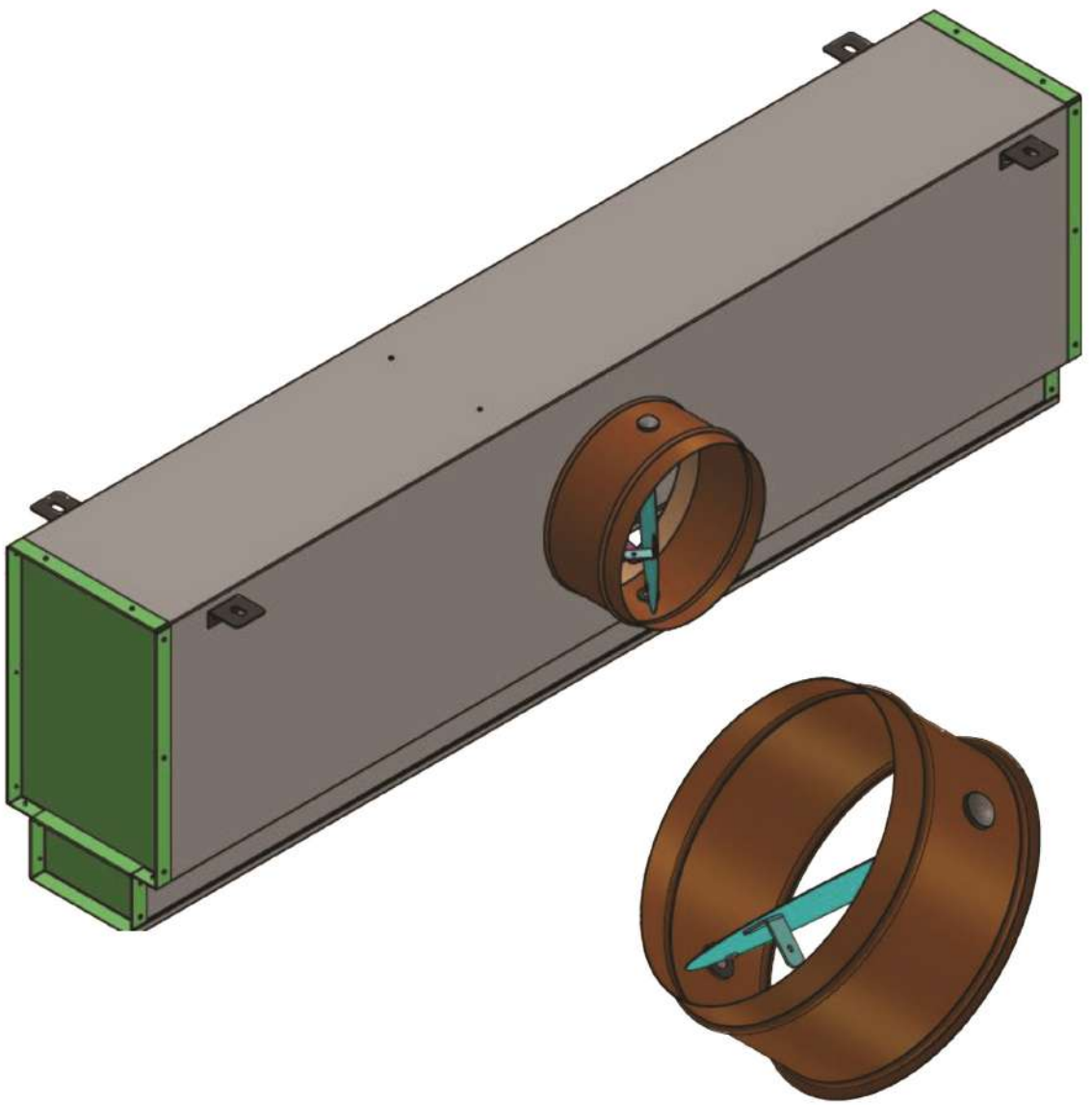
### Hanging Method

4 Suspension Lug



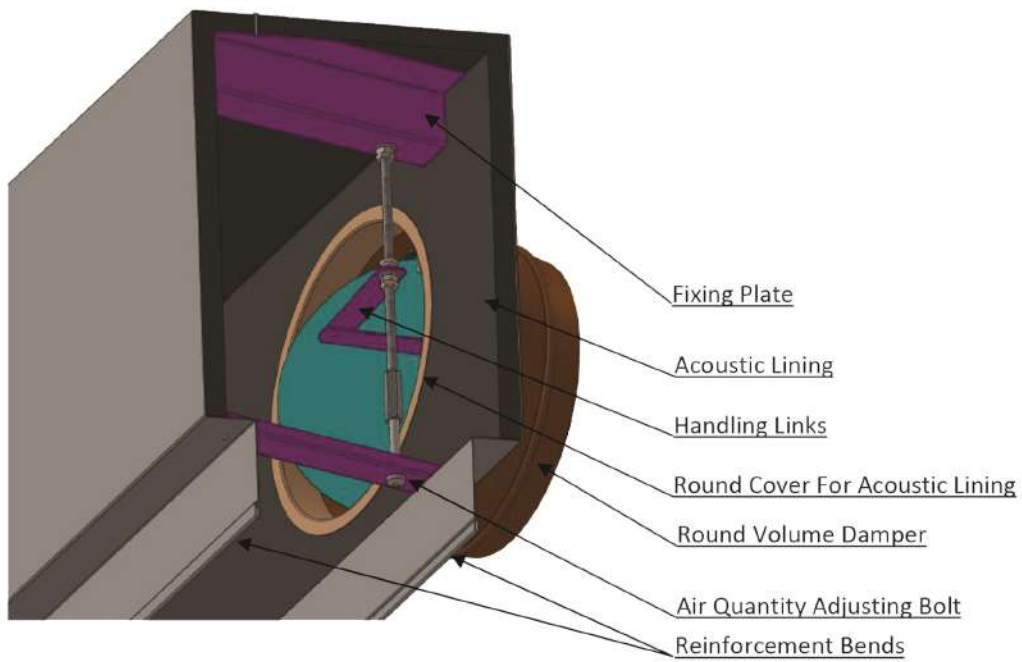
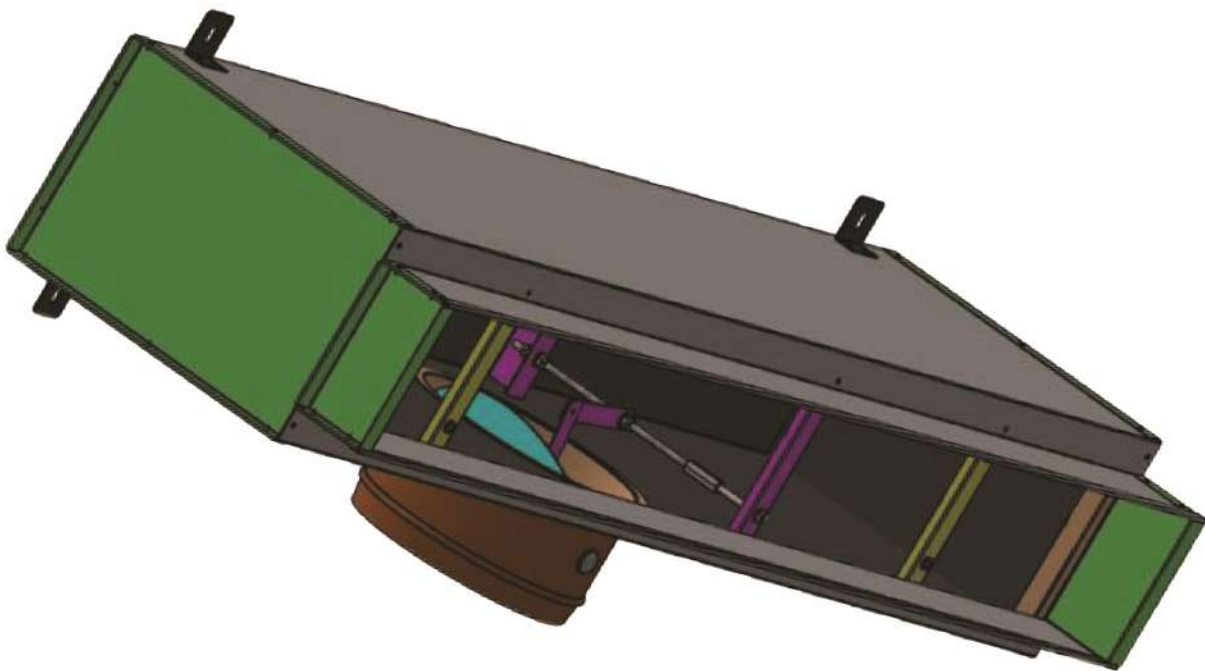


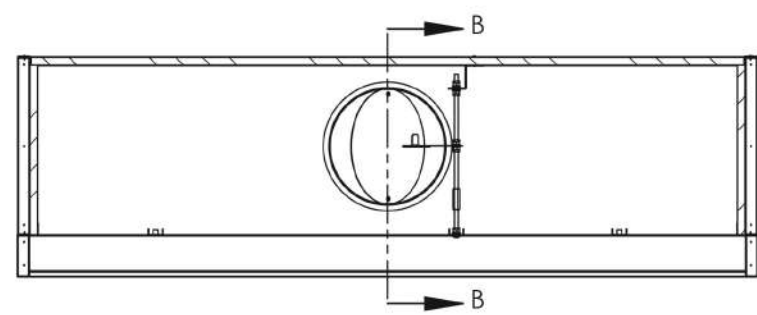
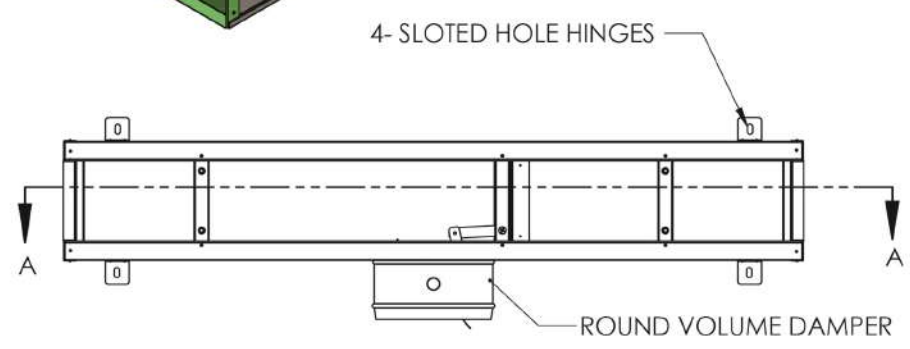
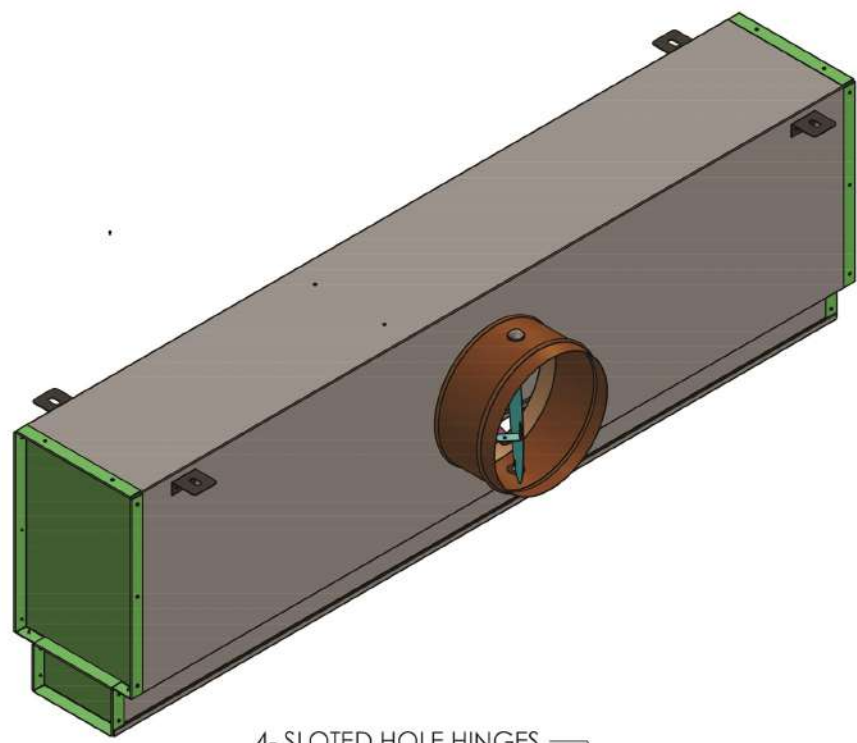
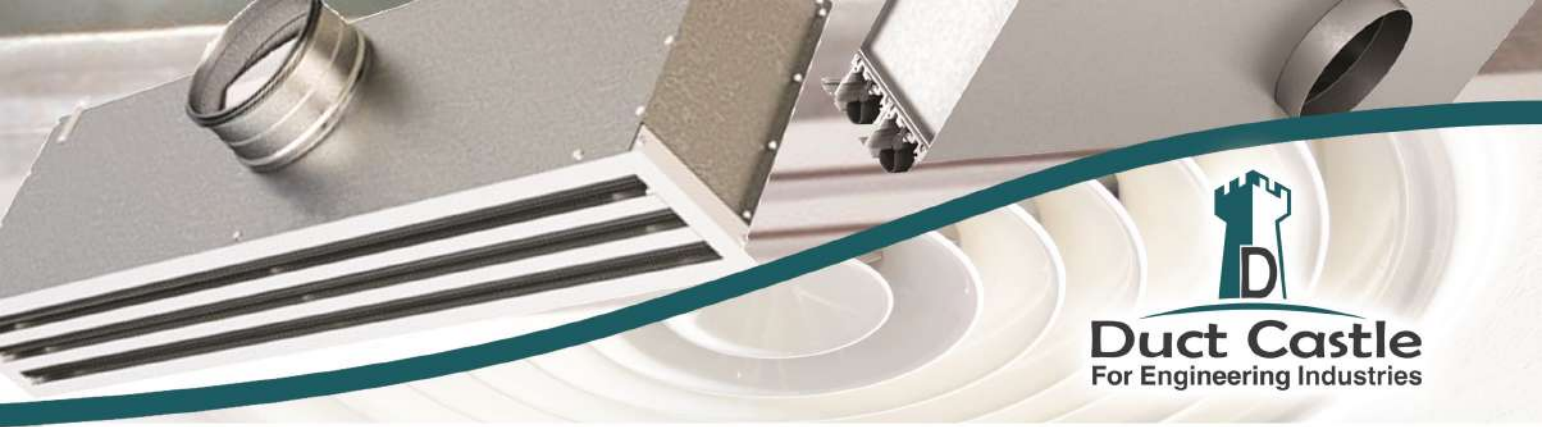
**Linear Slot Diffuser Plenum Box  
Included Round Volume Damper**





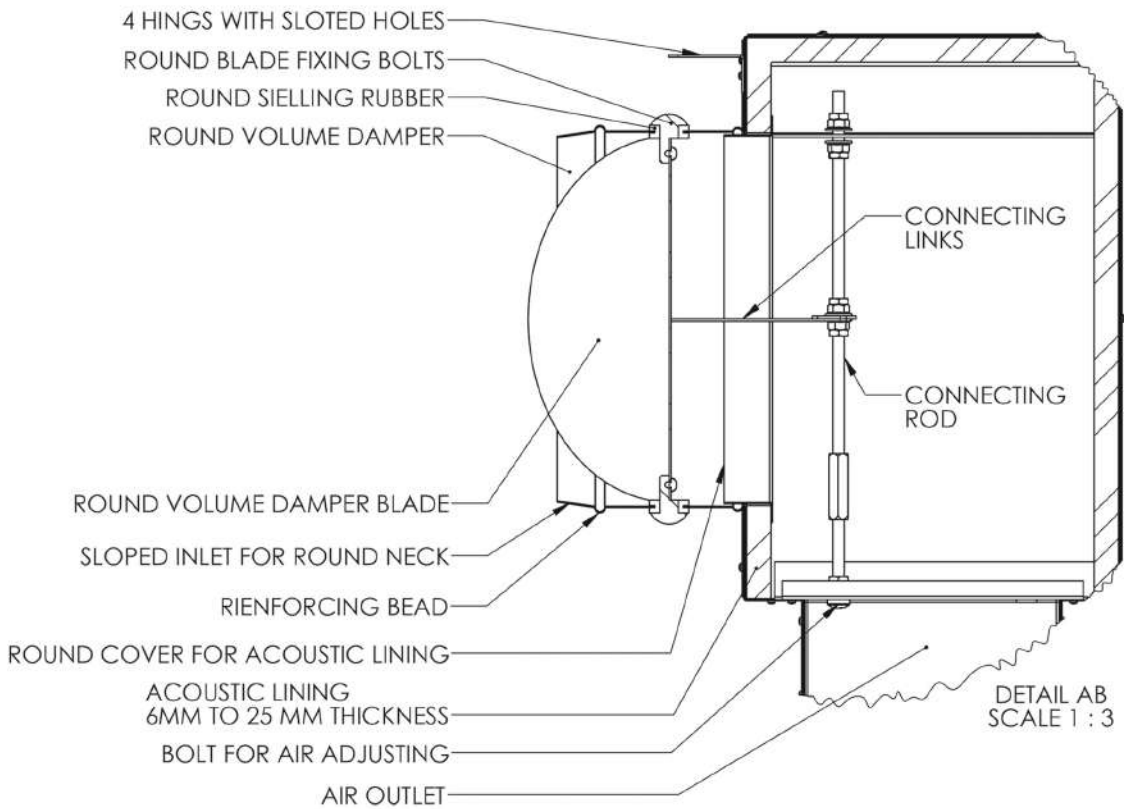
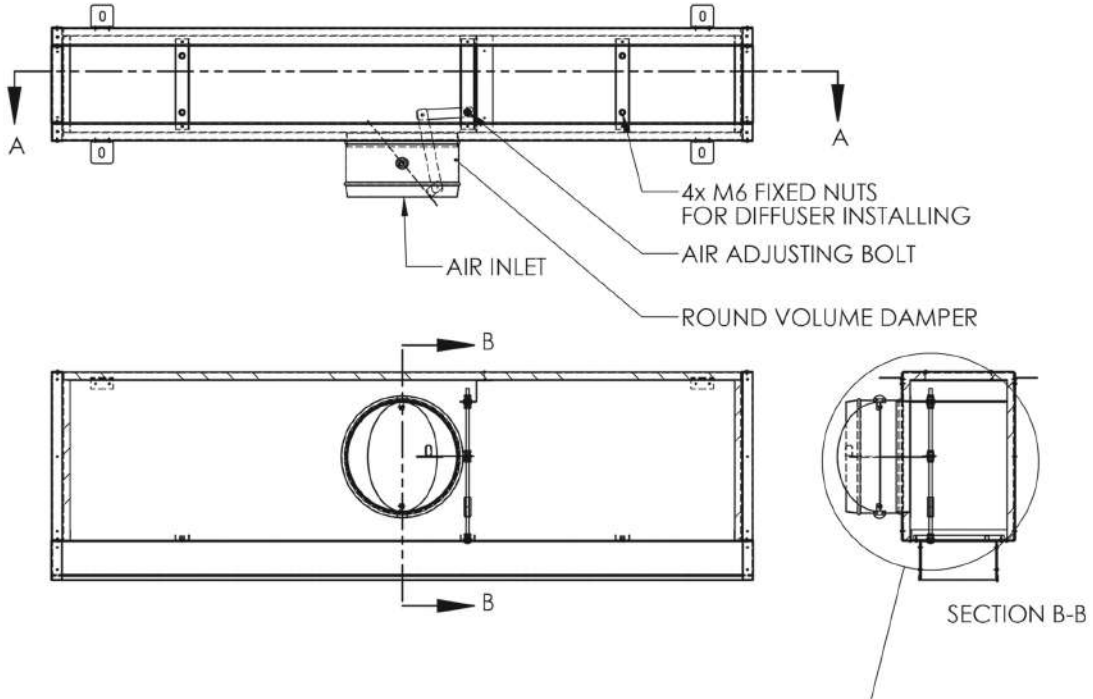
## Construction Details:



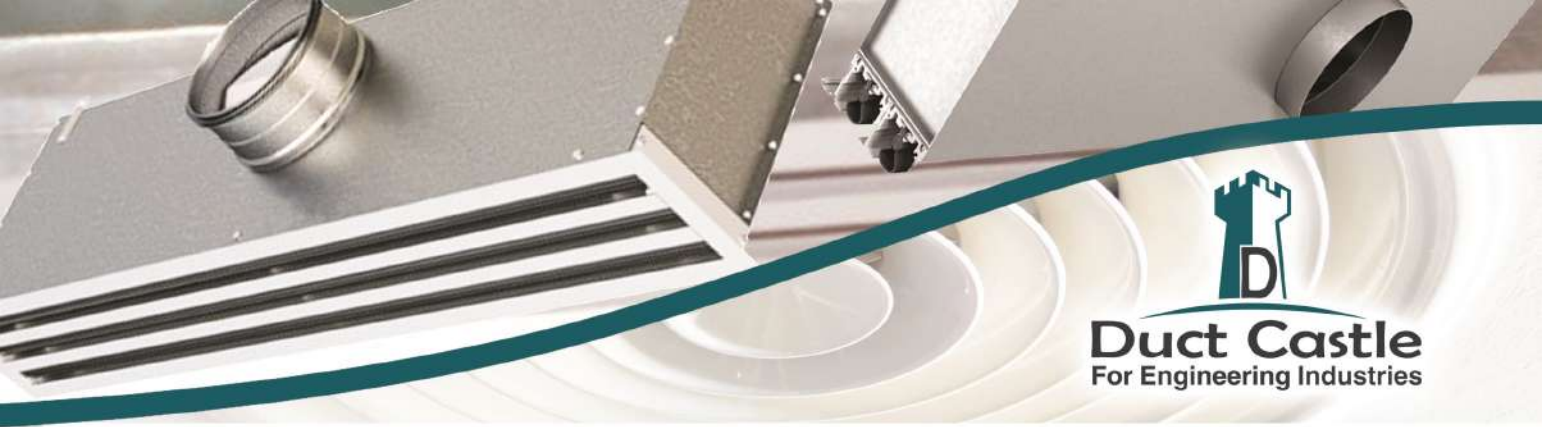




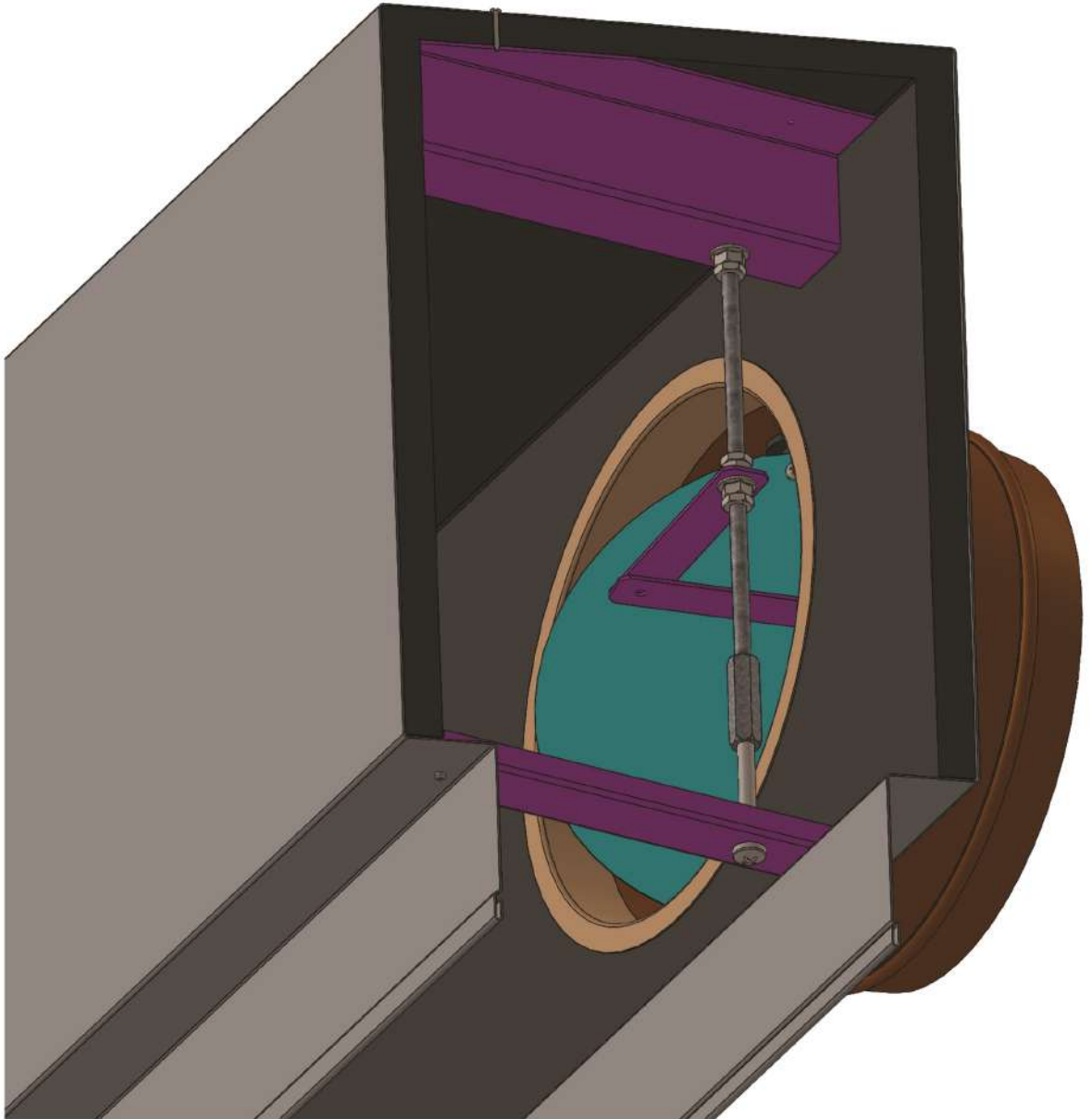
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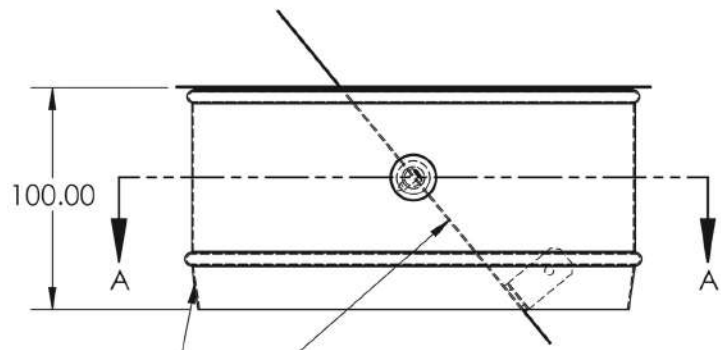
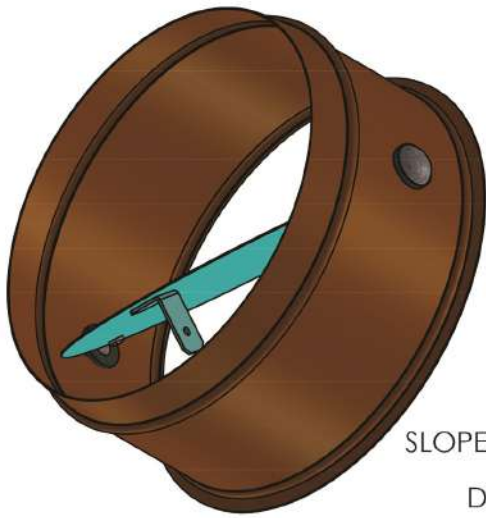




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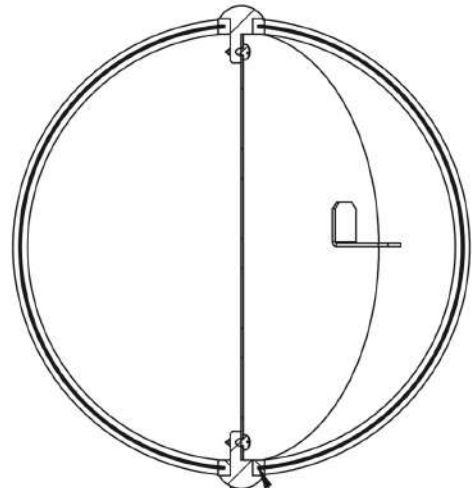






SLOPED NECK INLET

DAMPER VANE



SECTION A-A

SEALING RUBBER

2 FIXING BOLTS

## Technical Details:

**Plenum box With Round VD** is designed to ensure equal distribution of air across the slot diffusers. The supply plenum box has acoustic lining to reduce noise generated inside the duct due to airflow turbulence before reaching the diffuser. **The built-in damper can be operated from face of diffuser.**

### Insulated Type.

- With 6, 9, 12, 16, 19 and **25 mm** - "K-Flex ST" self-adhesive sheets (K-Factor = 0.035 W/m.k at 20 C°, Density = 45-65 kg/m<sup>3</sup>)
- Or With 25 mm thick acoustic lining with black glass tissue facing, 48kg/m<sup>3</sup> density. Acoustic lining is fixed inside the plenum box with non-flammable adhesive and mechanical fastener (cupped head pins).
- Or as per Client Request.

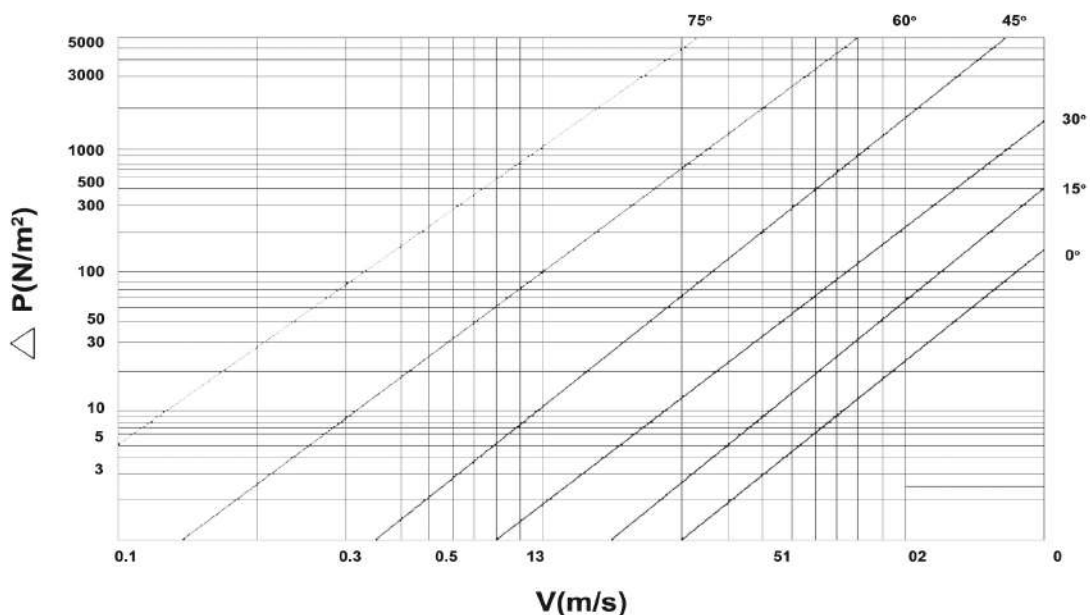
### Main Construction

- Built of galvanized steel sheet gauge 24, conform to ASTM A653, Lock Forming Quality, G90 zinc coating.

## Volume Damper Technical Data:

To determine static pressure drop through an open damper, Please Follow the below Chart.

**PRESSURE DROP/VELOCITY GRAPH**





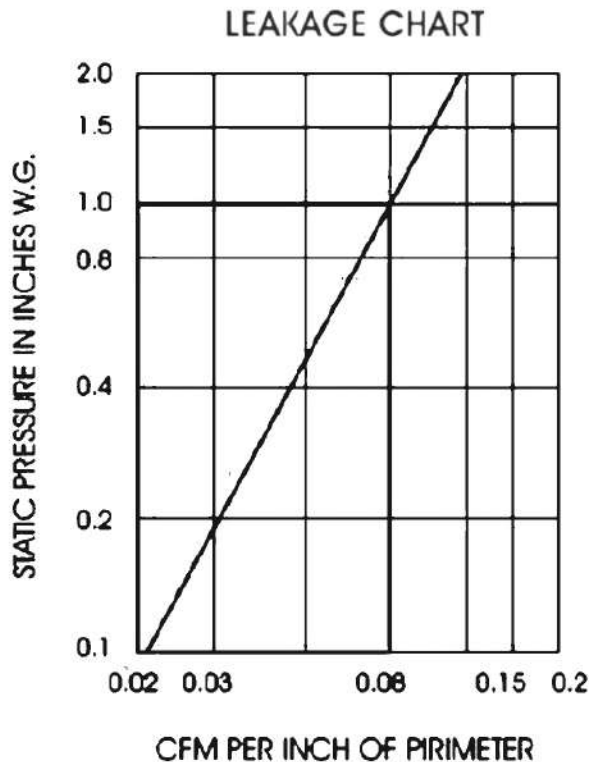
## DETERMINING LEAKAGE

To determine damper leakage, enter damper leakage chart from the right side. Given the static pressure the damper will encounter in closed position, move horizontally to the diagonal line, then go straight down the chart to CFM of leakage per inch of perimeter

Example:

Damper operating 1" W.G. static pressure will leak 0.08 CFM per inch of perimeter. total leakage on an 8" round will be  $8 \times 3.14 \times 0.08$  CFM per inch perimeter = 2 CFM leakage

Static pressure and CFM are corrected to 0.075lb./cuft. Air density.



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## For Engineering Industries

Location



Website



Contact



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