



Air Distribution in Vehicles

Expert for air distribution
in public transport vehicles





Our mission

We specialize in air distribution systems of public transport vehicles and provide unique lightweight fabric ducts, diffusers, and compensators.

Our passion

We want to promote a pleasant indoor climate for passengers in vehicles and provide our customers with top-notch technology and services.

PRODUCTS



Main distribution system

A complex solution for the even air distribution in the wagons. The design of the whole diffuser is individual. Both hot and cold air can be distributed using one duct with multiple chambers. Very easy and fast to install.



Driver's cabin diffusers

Special solutions for complicated spaces. Almost any shape can be sewn - outlets, arcs, adapters, etc. The air distribution is designed according to customer needs and can be tested in our lab.



Smaller diffusers or air ducts

Air ducts and diffusers of various cross-sections and shapes. It can be used as a connecting duct or as a diffuser for smaller spaces - buses, trams, etc. Various outlets and distribution elements can be designed.



Harmonica ducts

Wire-reinforced air ducts for exposed points of the vehicle joints. It is very durable and flexible. It keeps the cross-section the same while bending. Possibility of different attachments on the sides and along the duct.



Compensator with metal flanges

The compensators of various shapes and sizes from straight ones to complicated adapters. Different types of metal flanges are possible. As for all of our products, an insulated variant is possible.



Lightweight compensator

Compensators where the connection is ensured by textile strips with a buckle. Different shapes and sizes are possible. Various types of attachments or reinforcement for keeping the shape can be added.

100%

made in the EU

28-year

experience

EN 45545

certified fabrics

OUR CUSTOMERS ARE THE LARGEST VEHICLE MANUFACTURERS IN THE WORLD

You can see and experience the benefits of our solution all over the world, having delivered to major transport technology companies, as well as market-leading manufacturers of vehicles.

ADVANTAGES WE PROVIDE



LOW WEIGHT

Fabric can help you save weight. It can save up to 80 % compared to the metal alternative.



EVEN AIR DISTRIBUTION

We provide the precise design of the air distribution, including simulations (CFD).



FAST INSTALLATION

Easy handling and fast installation of our lightweight and flexible ducting & diffusers.



TAILOR-MADE PRODUCTS

All of our products are made exactly for your needs in excellent quality.



EASY MAINTENANCE

You can disinfect the ducts with ozone or use a washing machine for perfect cleaning.

OUR SERVICES

We offer technical support for the entire duration of each project, from the first consultation and 3D modeling to prototype manufacturing and testing. We can also assist our customers with maintenance.



1. REQUEST

Specification of the customer's requirements
The suggestion of possible solutions
Selection of the material



2. DEVELOPING

3D modeling
Making drawings
Air distribution calculations
CFD simulations of the airflow



3. PROTOTYPE

Testing the final product on a mockup or on a real vehicle
Measuring the air distribution
Processing possible changes



4. SERIAL PRODUCTION

Manufacturing and delivery of the products
Maintenance and cleaning of the textile ducts & diffusers

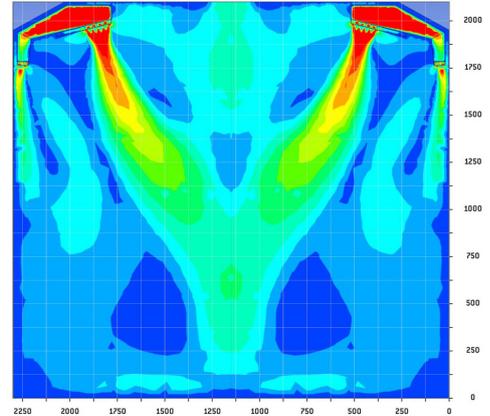
We are able to ensure even air distribution along the whole length of a vehicle.

AIR DISTRIBUTION

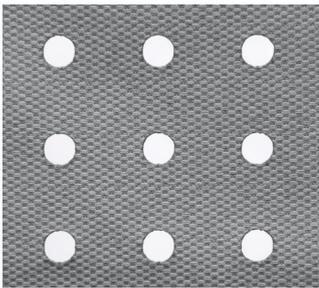
Fabric air ducts are a universal air distribution tool and cover the entire range of air delivery patterns. We achieve the requested air distribution by selecting the correct air outlet method. We can combine the air outlet methods on a single air duct in any pattern or ratio we wish.

CFD SIMULATIONS

Using CFD simulations, we can provide a true-to-life picture of the airflow inside the passenger compartment or a detailed analysis of the behavior of air ducts during operation.

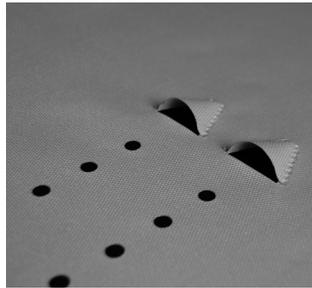


DISTRIBUTION ELEMENTS



Perforation

Holes with a diameter greater than 2 mm. The diameters of the holes vary along the length to ensure identical air distribution along the entire length of the duct.

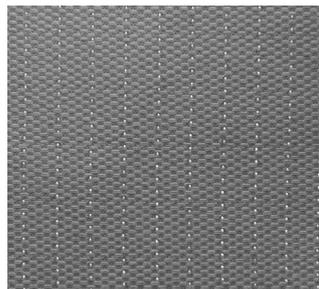


Fabric pockets

Our patented solution designed to remove the deflection of air leaving from the perforation. The pockets are connected to the duct using ultrasound.

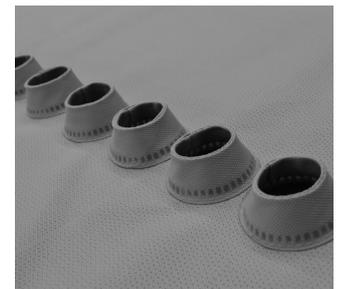
Microperforation

Very small 200 – 400 μm laser cut holes in the fabric. Designed to achieve low-velocity air diffusion. Patented solution (Bevel microperforation).



Fabric nozzles

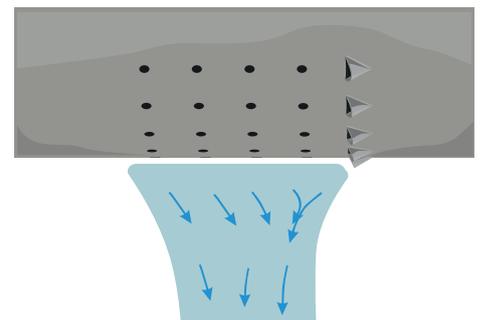
A great way to achieve a greater flow range with minimized deflection. There are three diameters available: 20, 30 and 40 mm. It is ultrasound-connected.



HOW TO AVOID DEFLECTION OF THE AIR?

Deflection of the air can create unventilated areas in the space. With our solution we can avoid it.

Fabric pockets are designed to remove the deflection of air leaving from the perforation. The solution is based on the interaction of two air flows of similar momentum. Discharge from the last hole in the row is directed at a certain angle using a fabric pocket and balances the air deflection from the perforation.



PATENTED SOLUTION

ALL OF OUR FABRICS ARE EN 45545 CERTIFIED

FABRICS



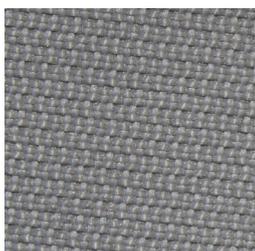
AirDIV Poly 2

EN 45545 HL2
220 g/m²
100 % polyester
antibacterial, antistatic



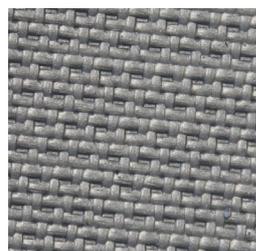
AirDIV Brane

EN 45545 HL2
250 g/m²
100 % polyester
waterproof



AirDIV Glass

EN 45545 HL3
460 g/m²
100 % glass fibre
polyurethane coating



AirDIV GlasSil

EN 45545 HL3
580 g/m²
100 % glass fibre
silicone coating



AirDIV Insulation

EN 45545 HL3
100 % polyester
thickness 10, 20, 30 mm

TYPES OF ATTACHMENTS



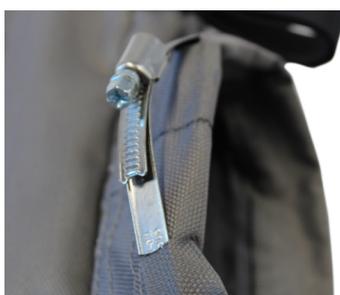
Enlarged strip, that slides into the C-profile



Velcro with self-adhesive counterpart



Velcro loop



Stainless connecting strip



Textile connecting strip with a buckle



Zipper for connecting parts or creating service openings



Air Distribution in Vehicles

AirDIV s.r.o.

Wilsonova 578, 539 01, EU-Czechia

+420 469 315 801, info@airdiv.com

www.airdiv.com



AirDIV is member of the Prihoda Alliance for
Air Distribution in Vehicles