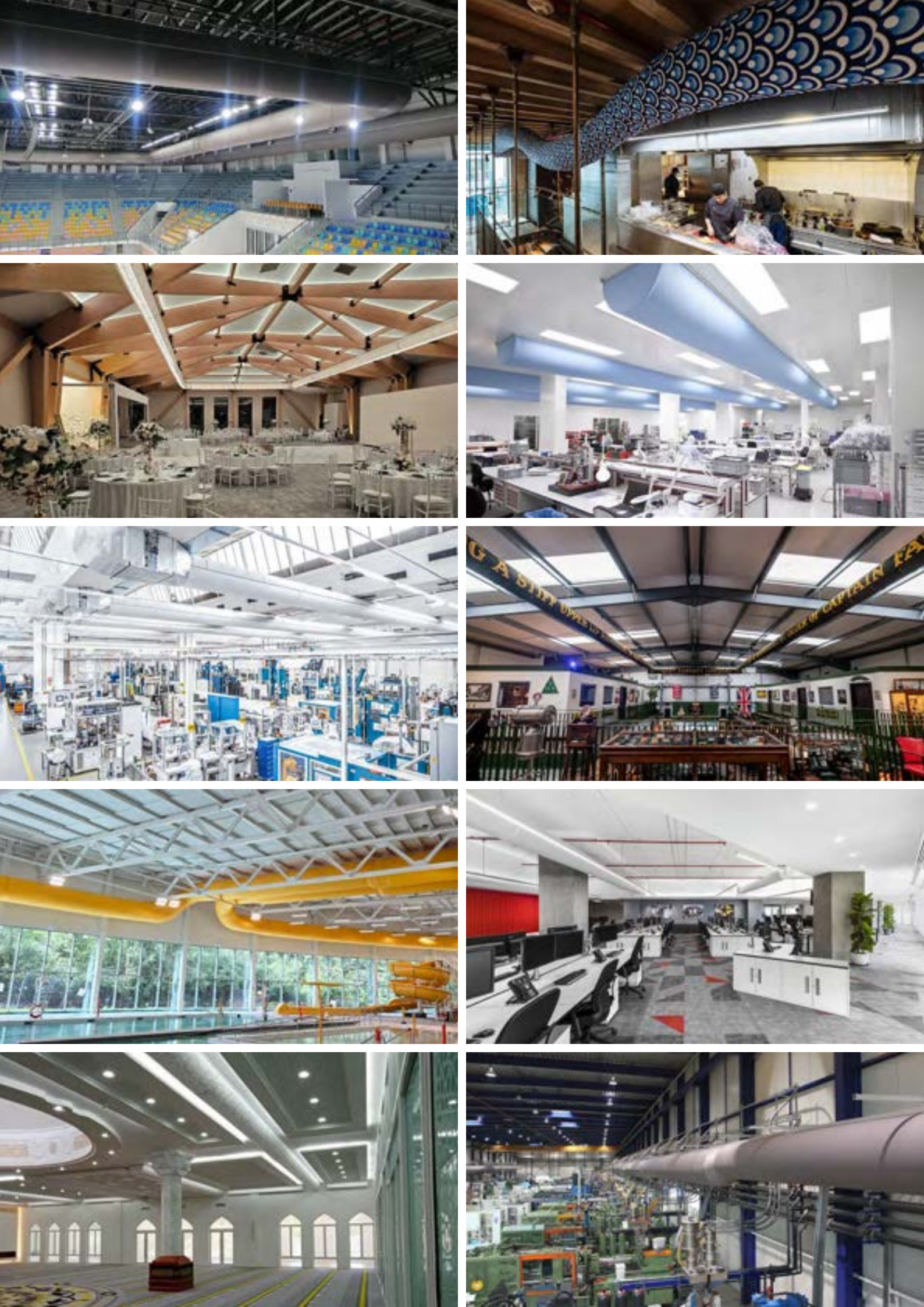


# Fabric Ducting & Diffusers

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Tailored Air Distribution





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## Why fabric diffusers?

# We are PRIHODA



## About us

We're a medium-sized Czech company producing top quality fabric diffusers and ducting for air distribution and transport. Instead of manufacturing ducting by the meter, our focus lies in providing tailor-made solutions. Exceptional technical standards and deep expertise in air flow define our work and our air flow expertise. We are based in the small, industrial town of Hlinsko in the heart of Czechia. From here, and from our subsidiaries in China, Mexico and India, we supply dozens of countries on every continent. A dedicated network of trained sales representatives ensures our solutions reach customers worldwide. Established in 1994, the company is still owned and managed by its founder, Zdenek Prihoda.



**30+**

years on the world market

**120 000+**

original projects

**70+**

countries we export to



### RELIABILITY

We deliver premium quality by the confirmed deadline.



### INNOVATION

We cater to special requirements and expand the potential for application.



### ACCOUNTABILITY

Our responsibility extends to every decision, product, and service we provide.



### COMPETENCE

We come up with the right air distribution solution for each operation.



### AMBITION

To be the global leader in our specialised field.

## Our services

Each of our products is tailored to meet the needs of the customer. We draw on our expertise and experience to design the best possible solution. Orders always go through a meticulous process, from design through delivery to recommended maintenance.



### DESIGN

A team of experienced engineers using the unique Air Tailor 2 software will design a bespoke air distribution system to suit the customer's requirements and spatial layout. Each of our designs is discussed in detail with the customer and is subject to their approval.



### PRODUCTION

Work is organised in production groups so as to increase motivation and personal responsibility. Our fine-tuned quality management system ensures the best inspection of fabric parts and installation material before the order is shipped.



### DELIVERY

We deliver more than 7,000 orders a year to 70 countries worldwide. Of these, 99% leave exactly on the date we promised. We collaborate with professional shipping companies and monitor the consignment until it is handed over to the customer.



### INSTALLATION

Besides printed installation instructions containing drawings of the complete systems and important details, animated instructions are also available and accessible via QR codes.



### MAINTENANCE

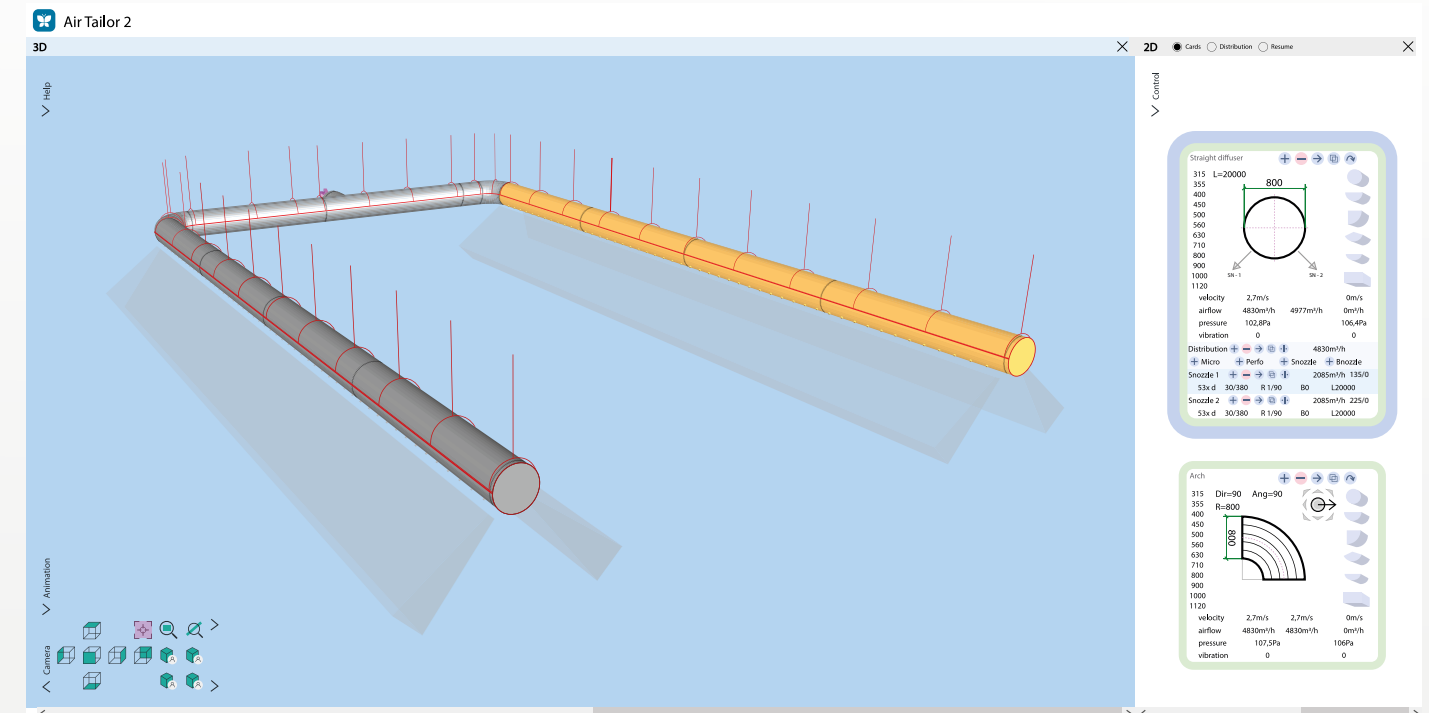
Fabric ducting and diffusers can be cleaned perfectly by washing them. The frequency of maintenance depends on the environment and hygiene standards. We provide recommended washing and cleaning procedures, including the appropriate products. Alternatively, we can take the equipment to be cleaned in our own laundry.



"We feel responsible for our products. We help our customers resolve issues related to our products throughout their lifetime."

## Custom solutions

Using our proprietary Air Tailor 2 design software, we can quickly and accurately design even the most complex fabric system down to the finest detail needed to price and produce it. Our programmers are continuously working to refine it. It includes the calculation of pressure losses, air velocities, the specification of all distribution elements and the calculation of their noise levels. It presents the results in a clear spatial display.



## Output from Air Tailor 2



### DRAWING

2D and 3D technical drawings showing the necessary details



### DISTRIBUTION

specification of distribution elements



### AIRFLOW PATTERN

current ranges under given conditions



### MATERIAL

detailed specification of fabric



### INSTALLATION TYPE

including a full listing of installation material



### PRESSURE

pressure ratios in the system



### NOISE

noise parameters



### DESIGN

colour, pattern, customer logo

## Prihoda worldwide

We are the largest manufacturer of fabric ducts and diffusers, producing them in 4 plants on three continents and supplying them to more than 70 countries. This global reach continues to grow, driven by the trust of customers placed in the quality of our products and services. We succeed by working closely with subsidiaries and trained distributors who understand the specific requirements of the local markets.

PRIHODA **MEXICO**  

Since: 2017

PRIHODA **CZECHIA**   

Since: 1994

PRIHODA **INDIA**  

Since: 2018

PRIHODA **CHINA**  

Since: 2013

**70+**  
countries we export to



DESIGN AND DEVELOPMENT CENTRE



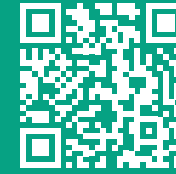
MANUFACTURING PLANT



SALES REPRESENTATION  
Qualified Technical Advisor



SALES REPRESENTATION



Scan the code to find your distributor. After filling in the simple enquiry form, we'll draw up a tailor-made quotation for you.

# Fabric Ducting & Diffusers

## Basic characteristics

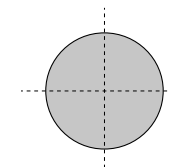
Fabric diffusers and ducting can come in a variety of shapes, sizes, lengths, air distribution methods and suspension types. Depending on the customer's requirements, we design the most suitable systems tailored to suit their operation.

### Shapes

Recommended

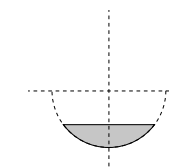
#### Circular

The basic design, convenient for maintenance, recommended where possible.



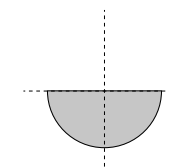
#### Segment

If there is not enough space for even a semicircular diffuser.



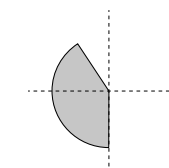
#### Half-round

For use where there is not enough space for circular diffuser and aesthetic applications.



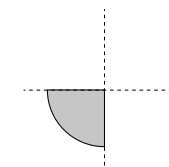
#### Sector

If the design of the corner of the room requires other than a quarter-round shape.



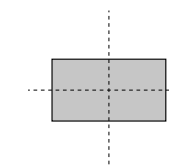
#### Quarter-round

If there is not enough space for a circular diffuser or the diffuser is to be located in a corner of the room.



#### Square

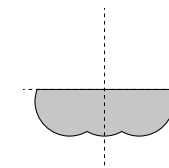
For the best use of space, external tensioning structure required.



New design

#### Compound semicircle

The best use of space without an external structure.



## Dimensions

We manufacture fabric diffusers and ducting in all sizes from 100 to 2,000 mm, always to meet specific requirements. The connecting part is always 10 - 15 mm larger than the dimension stated in the technical documentation for the order.

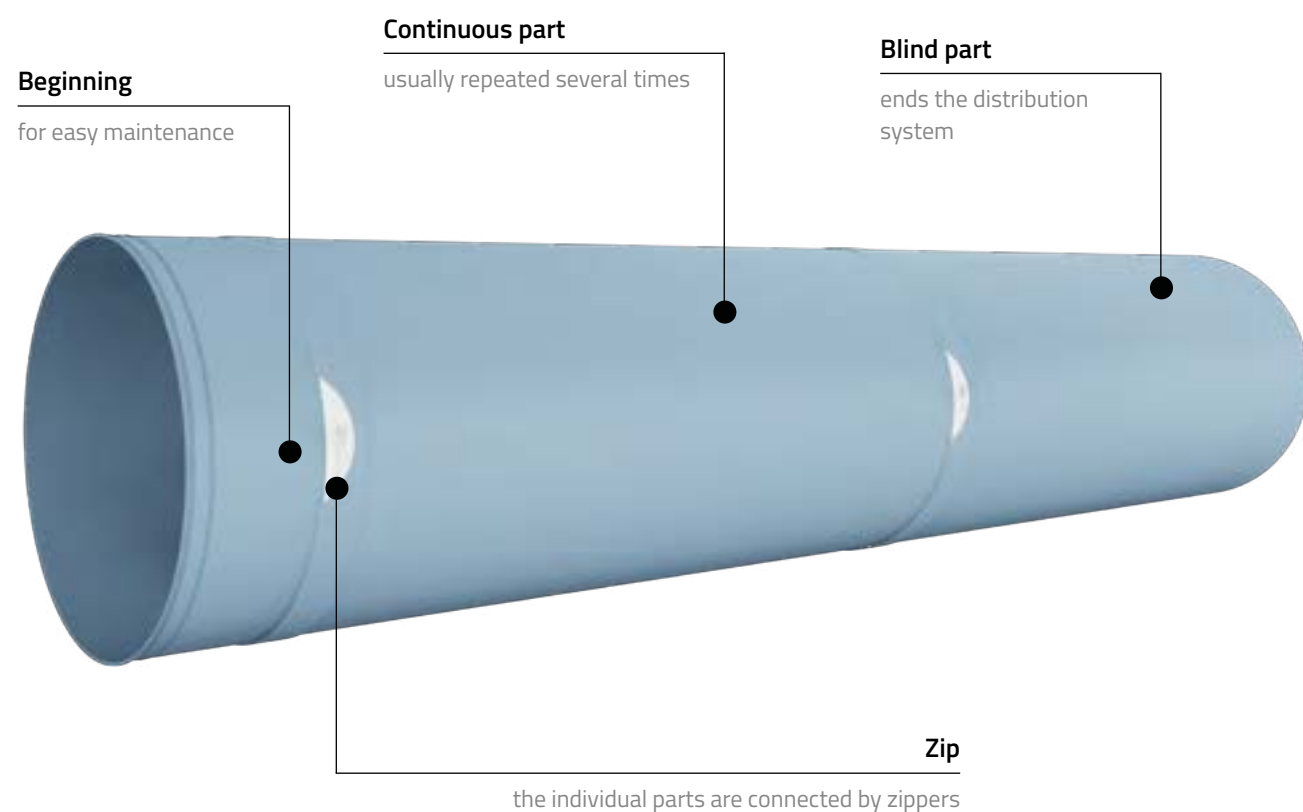
#### Basic diameter range:

100, 125, 160, 200, 250, 315, 400, 500, 630, 710, 800, 900, 1 000, 1 120, 1 250, 1 400, 1 600, 1 800, 2 000

## Length

The length of fabric diffusers and ducting is determined primarily on the basis of the available space. In general, the same air flow can be conveyed into the space through a duct 1 to 200 m long. It depends on the material used, the chosen distribution and the conveying pressure of the fan.

### Most common case



## Pressure

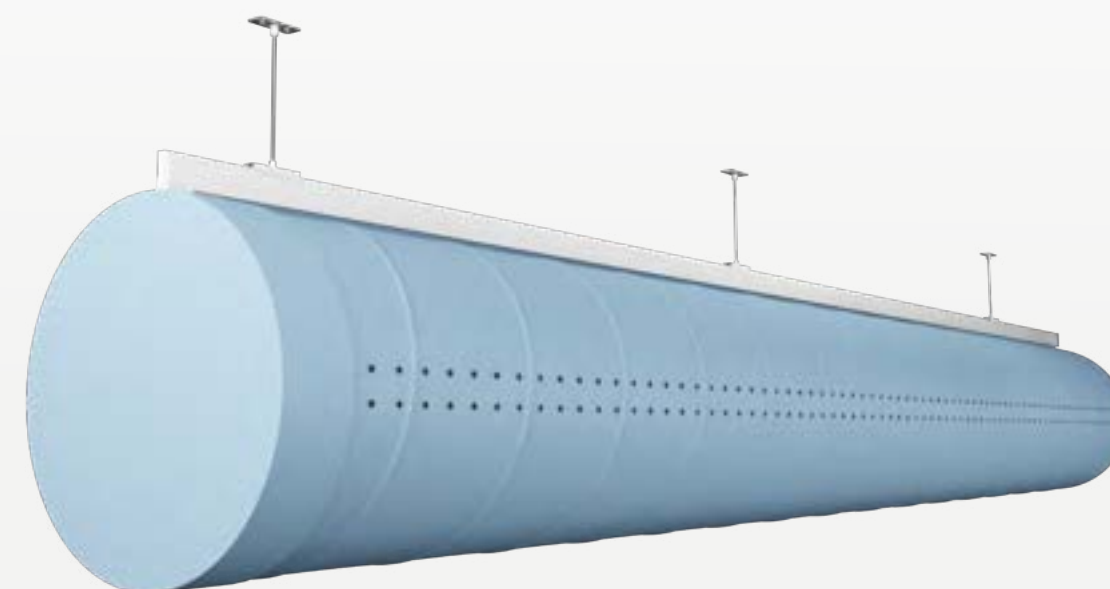
A positive static pressure must be maintained on all parts for the fabric distribution system to work properly. Although the ducting can withstand high pressures, we always strive to design at the lowest values, mainly to ensure economical operation.

## Appearance improvement

We offer several solutions to ensure that the dimensions of our fabric diffusers remain stable without an air supply. A spiral reinforcement (Helix) or other alternative options provide a consistent shape and a more aesthetic look.

### Spiral reinforcement – Helix

A metal spiral covered in fabric inserted inside of the diffuser permanently keeps the shape cylindrical and the fabric stretched. Five meters long, the Helix parts are attached to the zippers connecting the individual parts of the ducting. The spiral can be easily disassembled for maintenance purposes.



### Alternative solution



### Rings

maintain the cross section

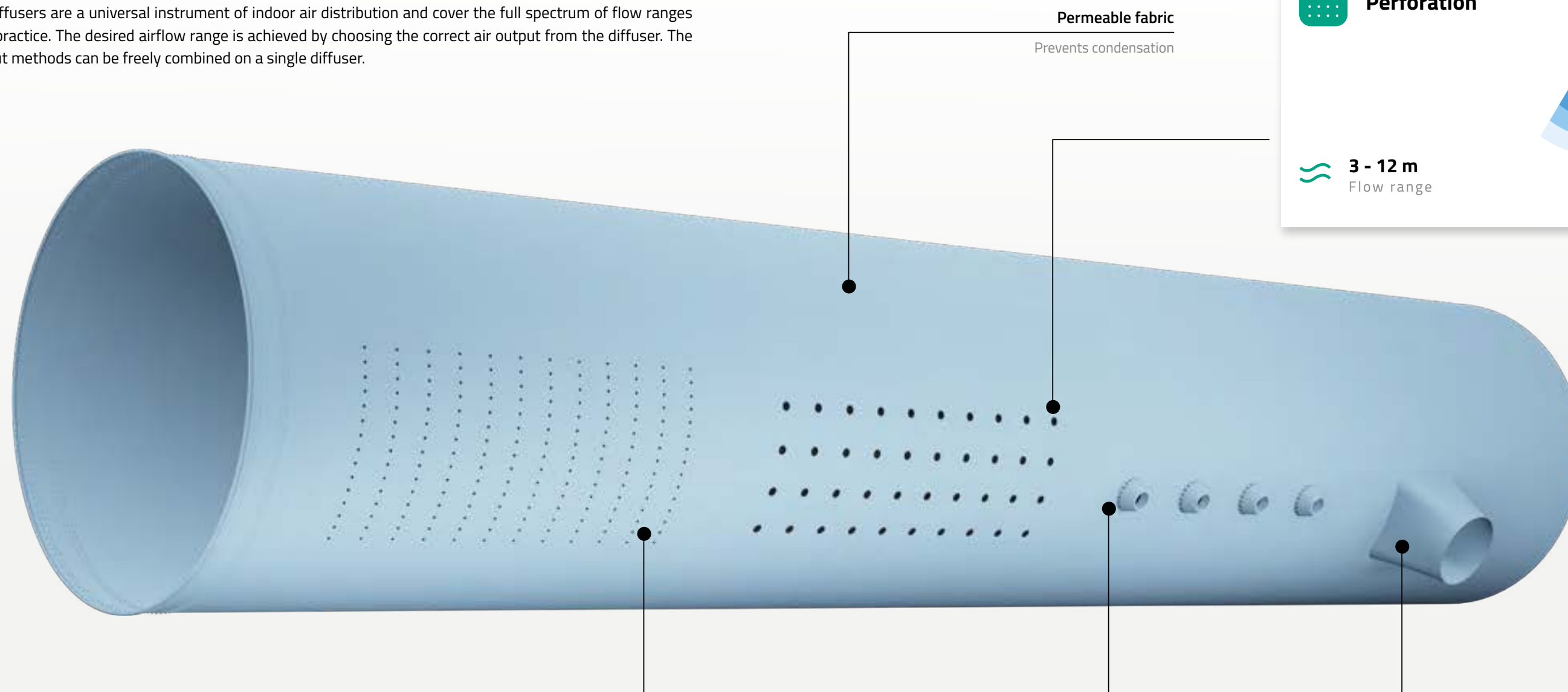


### Arcs

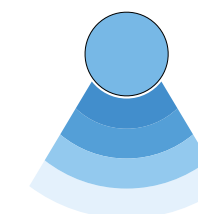
prevent the fabric from sagging

# Uses of fabric diffusers and ducting

Fabric diffusers are a universal instrument of indoor air distribution and cover the full spectrum of flow ranges used in practice. The desired airflow range is achieved by choosing the correct air output from the diffuser. The air output methods can be freely combined on a single diffuser.



## Perforation

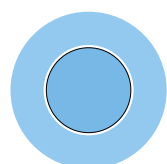


**3 - 12 m**  
Flow range

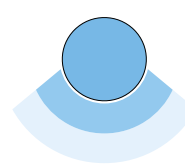


## Microperforation

Uniform



Directional



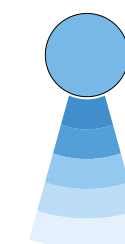
**0 - 1,5 m**  
Flow range



**0 - 3 m**  
Flow range



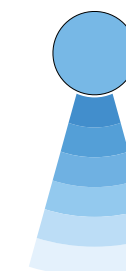
## Small Nozzle



**4 - 15 m**  
Flow range



## Big Nozzle

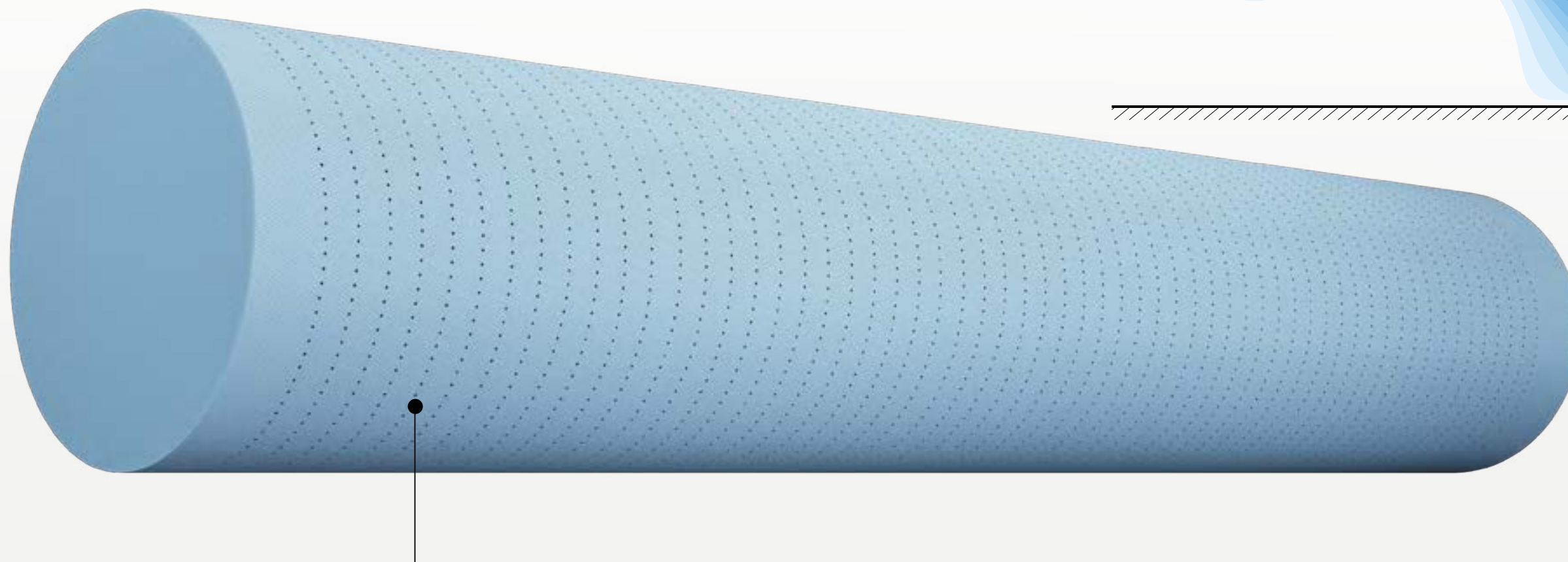


**10 - 30 m**  
Flow range

Fine air dispersion

## Microperforation

Holes in the fabric with a diameter of 200 or 400  $\mu\text{m}$ , cut by a special laser, they distribute air into the room at low speed, due to the enormous induction. Microperforation can be uniform or directional. The 200  $\mu\text{m}$  diameter holes are burned obliquely into the fabric to prevent diversion of the flow of air.



### Specification

Uniform air dispersion

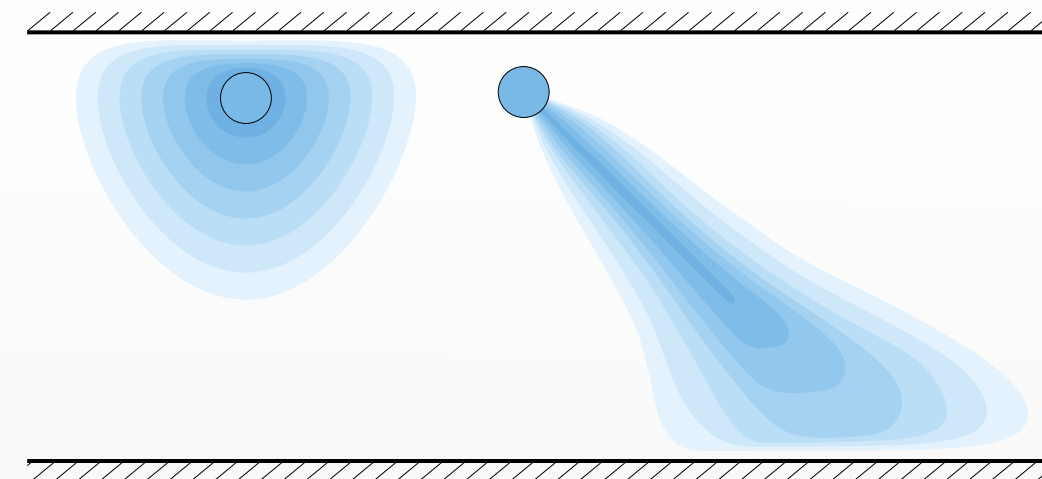
### Uniform



0 – 1,5 m  
Flow range



200, 400  $\mu\text{m}$   
Holes diameter



Directional air dispersion

### Directional



0 – 3 m  
Flow range



200, 400  $\mu\text{m}$   
Holes diameter



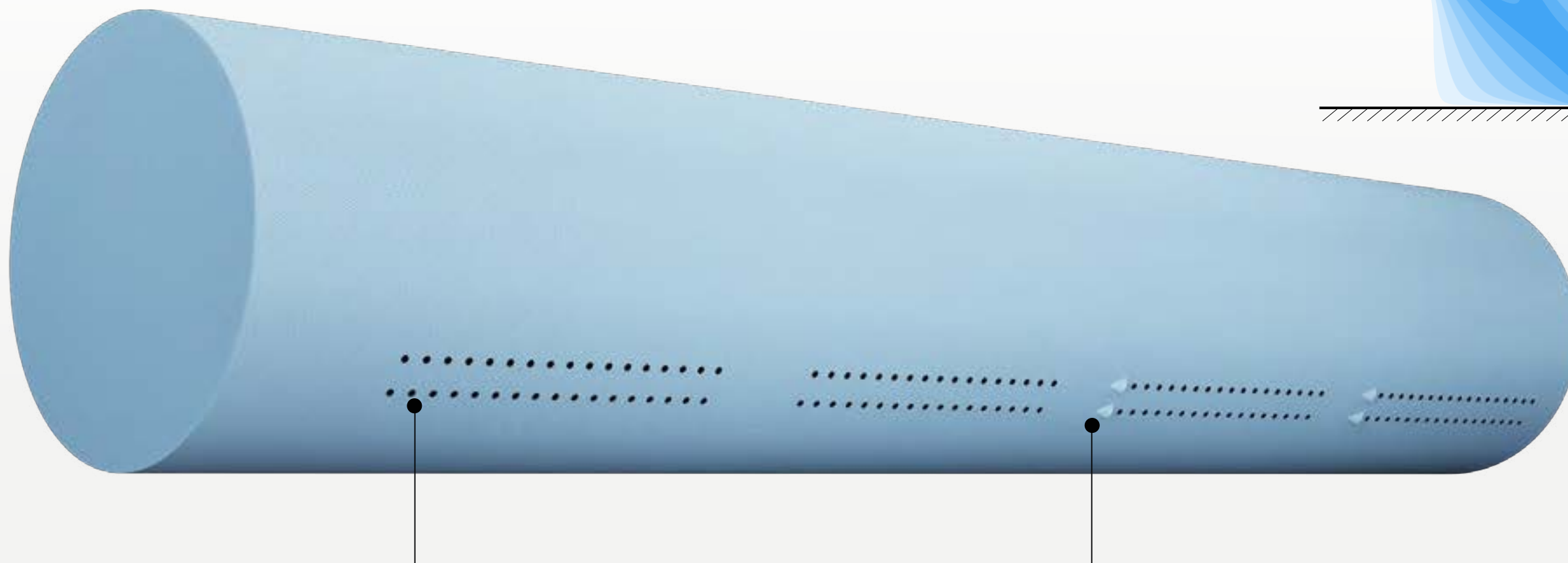
The most commonly used air distribution method

## Perforation

Laser-cut perforations several mm in diameter distribute air with a flow range of 3 to 12 m. Our software evaluates velocity and pressure ratios and designs special pockets to eliminate airflow deflection.



Fabric pockets



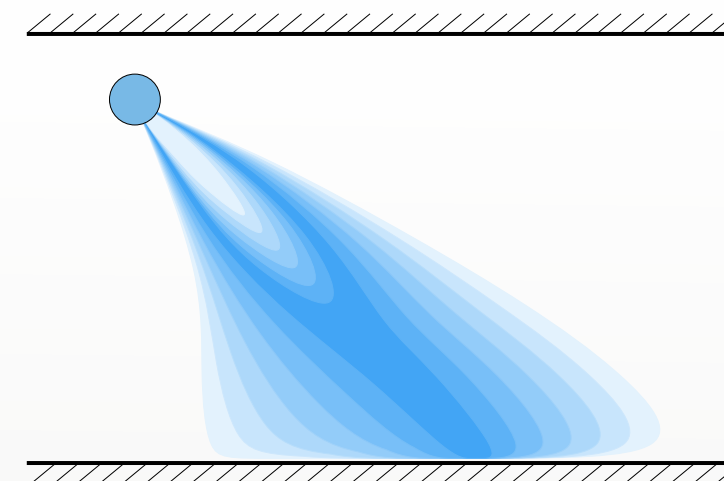
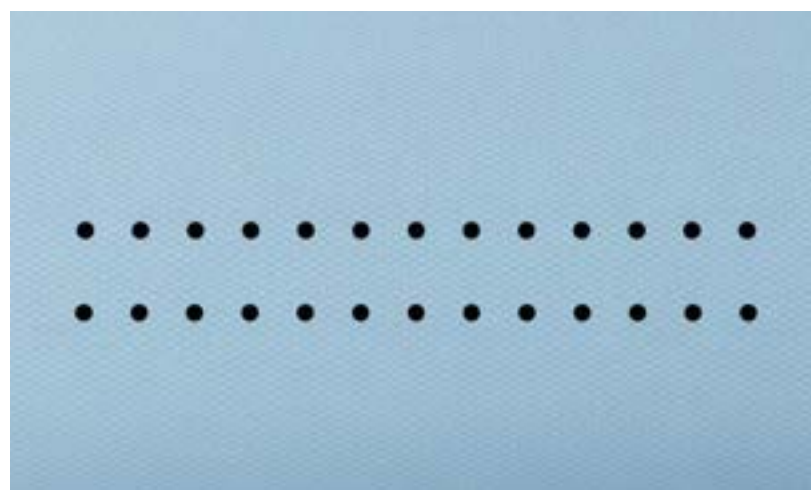
### Specification



**3 – 12 m**  
Flow range



**4+ mm**  
Holes diameter

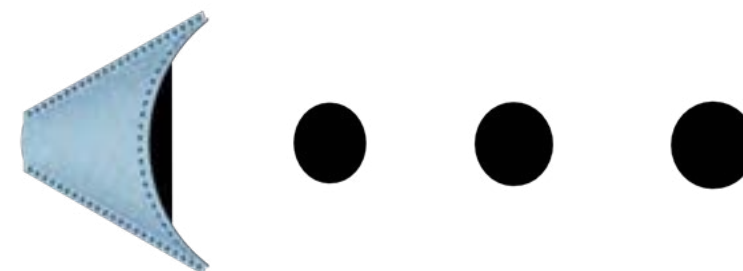


### Special solutions

Patented innovation

## Fabric pockets

Fabric pockets are designed to remove the deflection of air leaving from the perforation. The solution is based on 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 perforation.



For a guaranteed perpendicular diffuser and long reach

## Small nozzles

Small nozzles extend the range by approximately 25% and eliminate the risk of airflow deflection. We produce them in two variants, industrial and premium.



### Specification

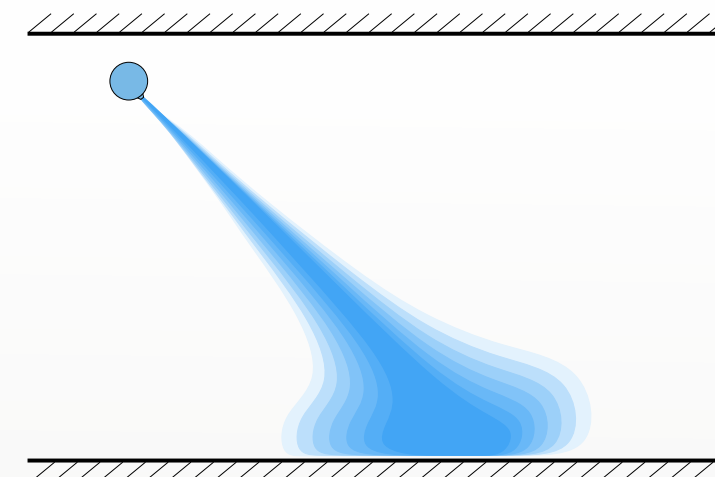
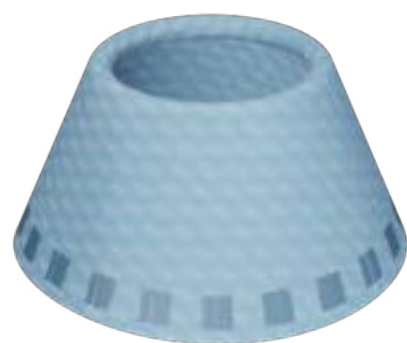
## Fabric nozzles



**4 – 15 m**  
Flow range



**20, 30, 40, 60 mm**  
Holes diameter



### Benefits

Unlike plastic nozzles, fabric nozzles, attached tightly to the diffuser fabric, cannot come loose during maintenance (washing) and are highly resistant to fire, as is the entire diffuser. We offer them in a range of different colours.



**FIXED CONNECTION TO  
THE DIFFUSER**



**FIRE  
RESISTANCE**



**EASY  
TO CLEAN**

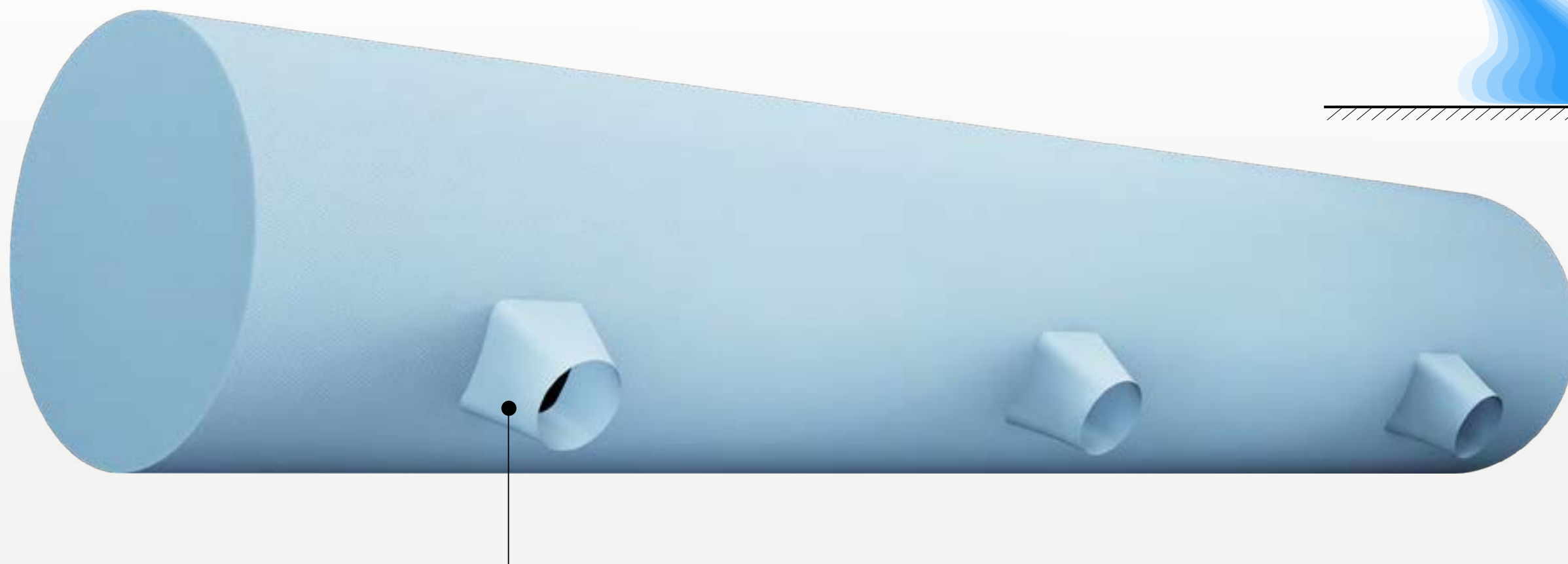


**RANGE OF  
AVAILABLE COLOURS**

For the greatest airflow range

## Big nozzles

Big nozzles deliver air the furthest. Depending on the static pressure and temperature difference, the range can be greater than 20 m. We manufacture them set in a certain direction, and also adjustable versions.



### Specification



**10 – 30 m**  
Flow range



**80+ mm**  
Holes diameter



### Special configurations



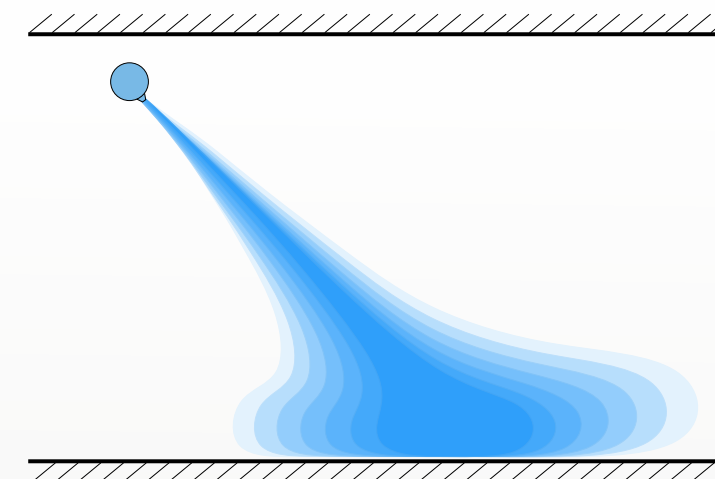
#### Directional nozzle

permanently set in a specific direction



#### Adjustable nozzle

the direction of the airflow can be changed



Diffuser for two air output modes

## Membrane diffuser

The membrane diffuser combines two different air distribution modes. A membrane, made of lightweight impermeable fabric, is sewn horizontally into the centre of the diffuser. It alternately covers one or the other half of the diffuser. When heating, it covers the upper half of the diffuser, and the air exits downwards through rows of perforations. When cooling, it blocks the lower half of the diffuser and the air is distributed only upwards, usually through microperforations.



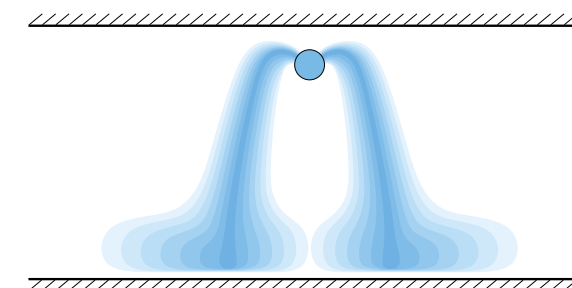
### Specification

#### Fabric flap

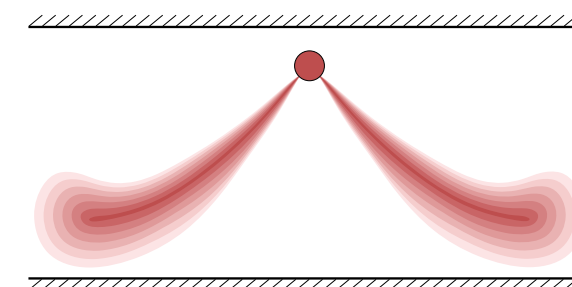
The fabric flap moves the membrane between the upper and lower positions. It is reinforced with aluminium inside. A servo motor is supplied.



### Cooling



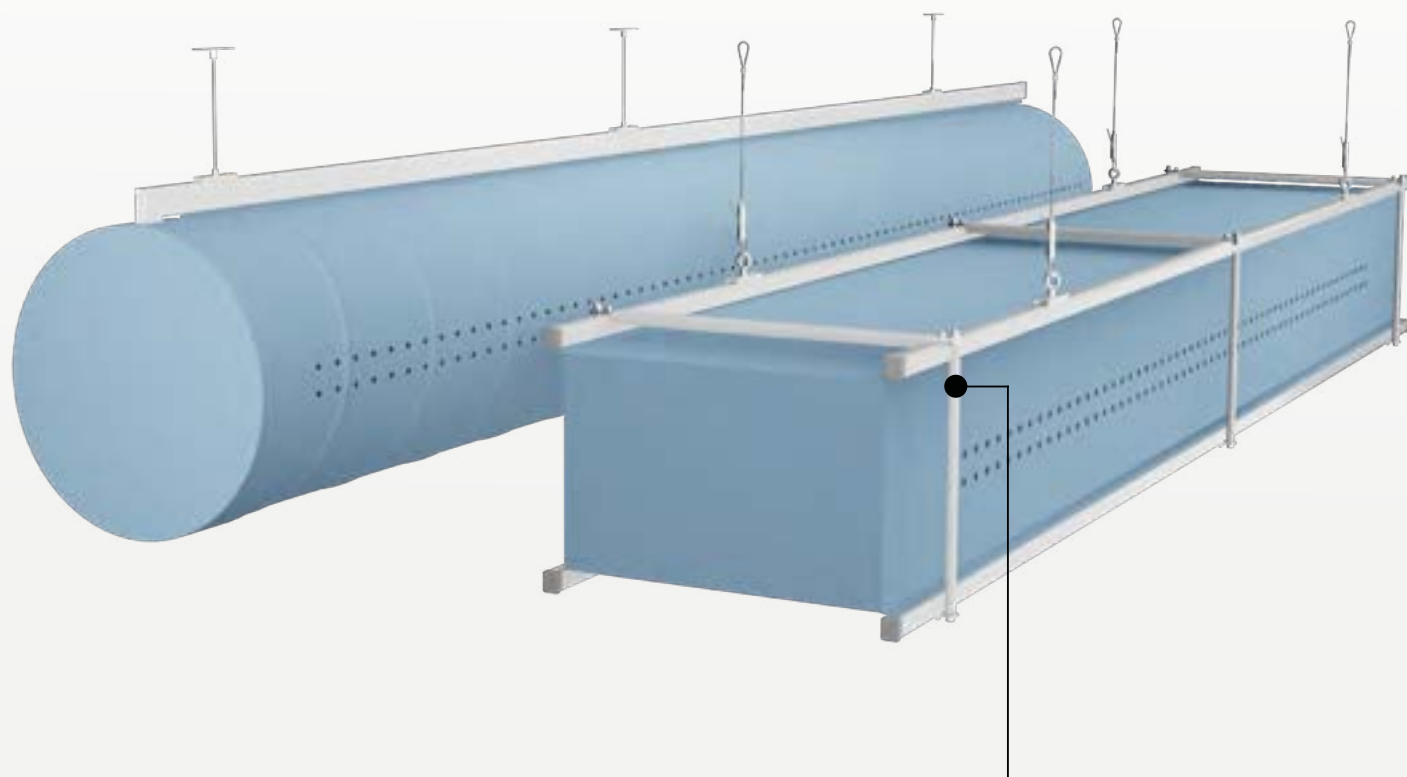
### Heating



Fabric ducting for air removal

## Negative pressure ducting

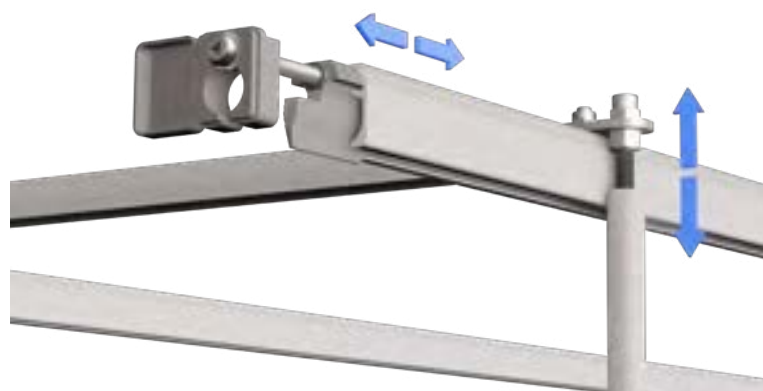
Fabric ducting with a special structure can also be used to remove air. We offer circular ducting with an internal Helix, as well as square with ducting an external tensioning structure. Air is drawn into the diffuser through perforations. The ducting can be easily detached from the support structure and washed.



### Specification

#### Tensioning structure

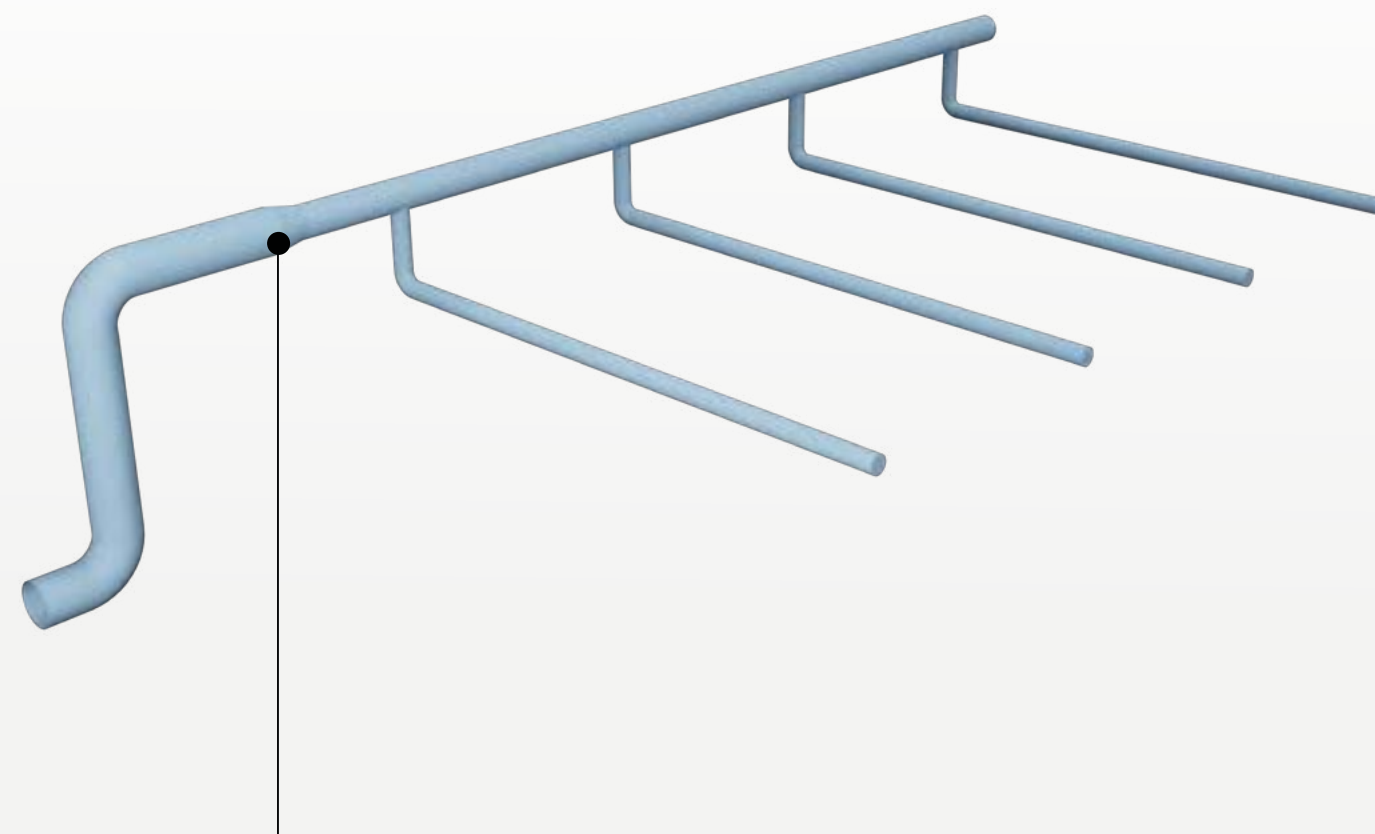
The square negative pressure diffusers require the fabric to be perfectly taut in a longitudinal and transverse direction. This is ensured by tensioners in the profile and transverse tension spacers.



Fabric ducting not only as a means of distribution

## Air transfer ducting

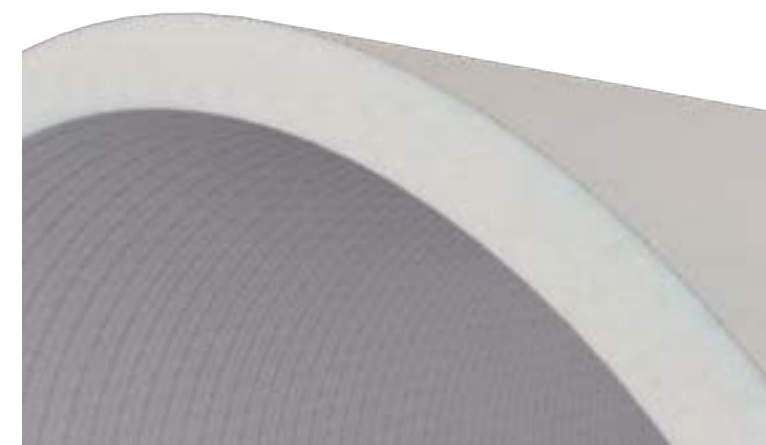
We manufacture complete systems tailored to suit each room. Depending on the requirements, we supply ducting sections with no air distribution and ducting sections with an air supply.



### Special configurations

#### Insulated ducting

Insulated ducting is used to reduce heat loss or prevent condensation. An insulating layer of fire-resistant non-woven polyester textile is sewn between the inner and outer fabric.



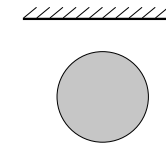
# Installation



Fabric diffusers are very easy and quick to install. It only takes 20% of the time needed to install sheet-metal ducting! From the installation overview below, the most suitable one is selected according to the situation at the installation site. It can include reinforcements to maintain the shape of the duct when there is no air running through it.

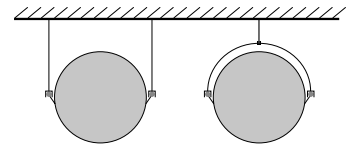
0

**Without installation material**



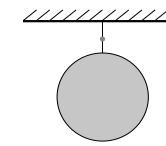
6

**Double profile suspended**



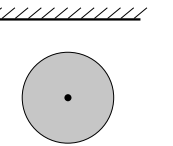
1

**Single wire**



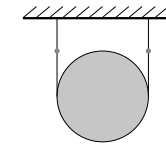
7

**Tensioner in blind with no supports**



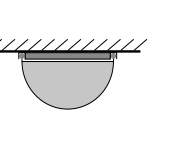
2

**Double wire**



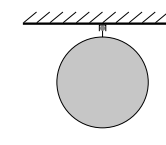
8

**Non-circular cross-section anchored directly**



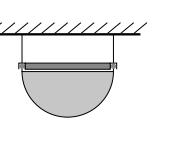
3

**Single profile anchored directly**



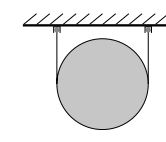
9

**Non-circular cross-section suspended**



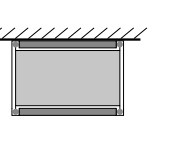
4

**Double profile anchored directly**



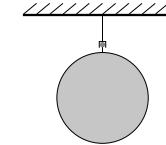
10

**Square directly anchored**



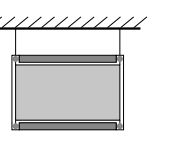
5

**Single profile suspended**



11

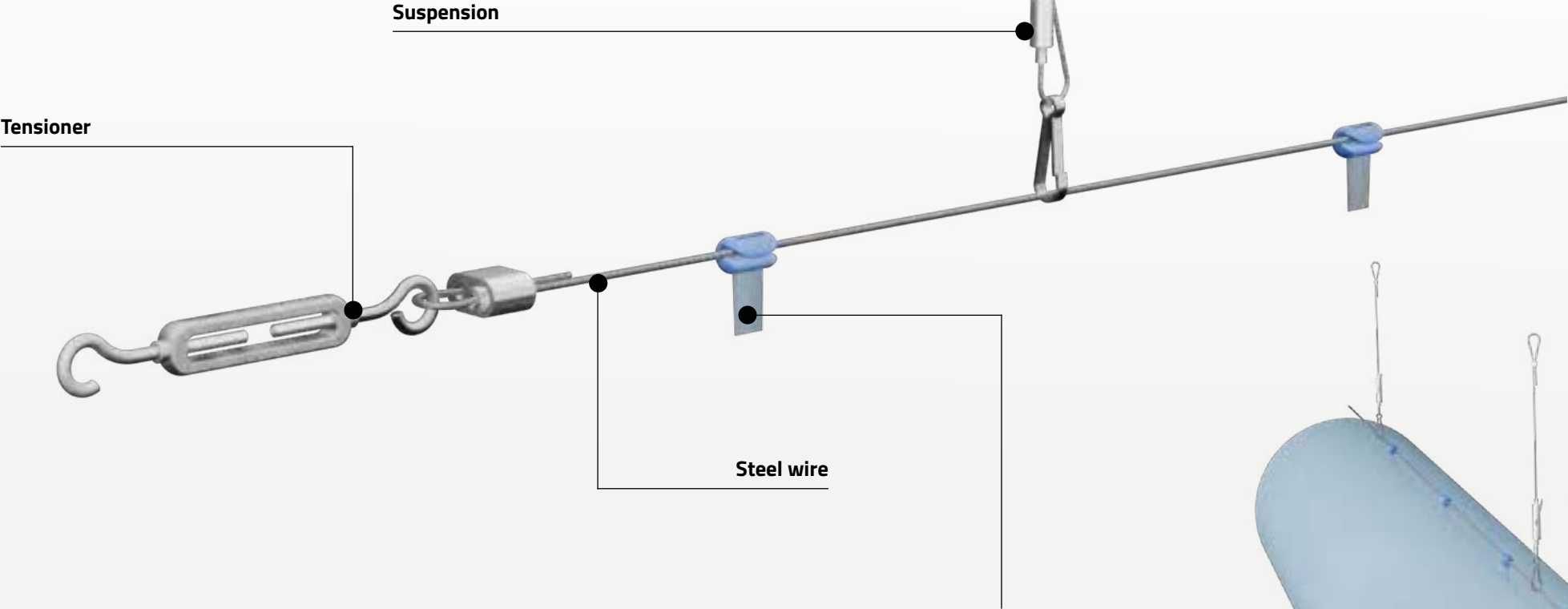
**Square suspended**



Suspension method

# Wire

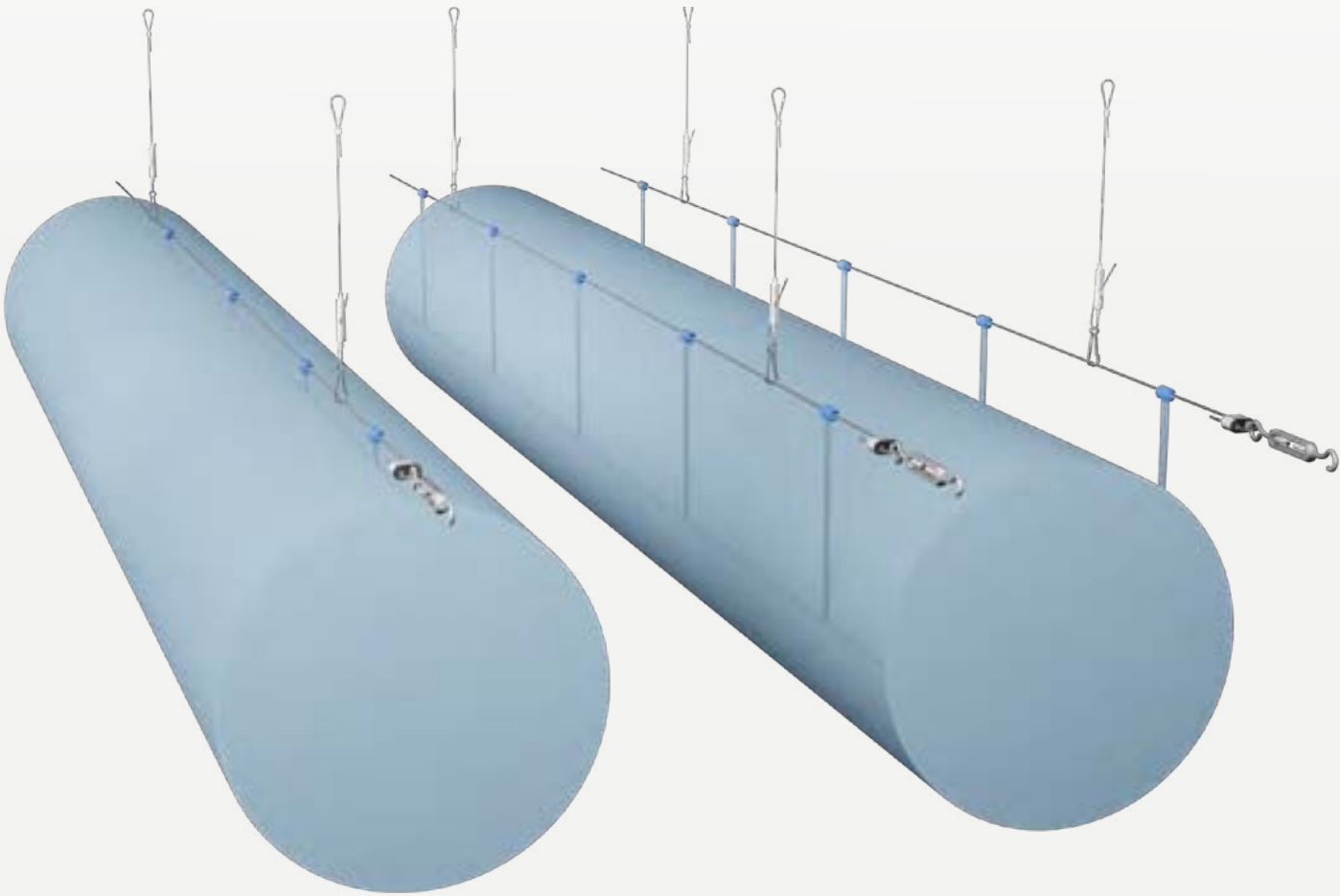
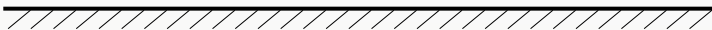
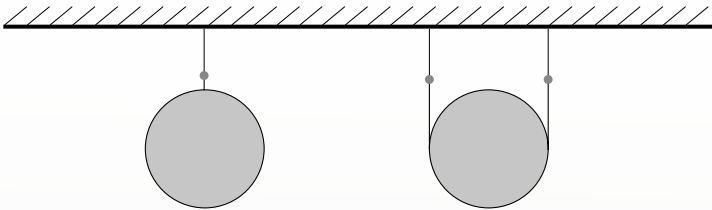
The most cost-effective form of installation is to suspend the duct from tensioned steel cables. This method is mainly used in industrial plants.



## Specification

### Plastic hook

The plastic hook is connected to the diffuser by a textile strip. It is hooked onto the tensioned wire or threaded into the profile to hold the diffuser in the desired position.



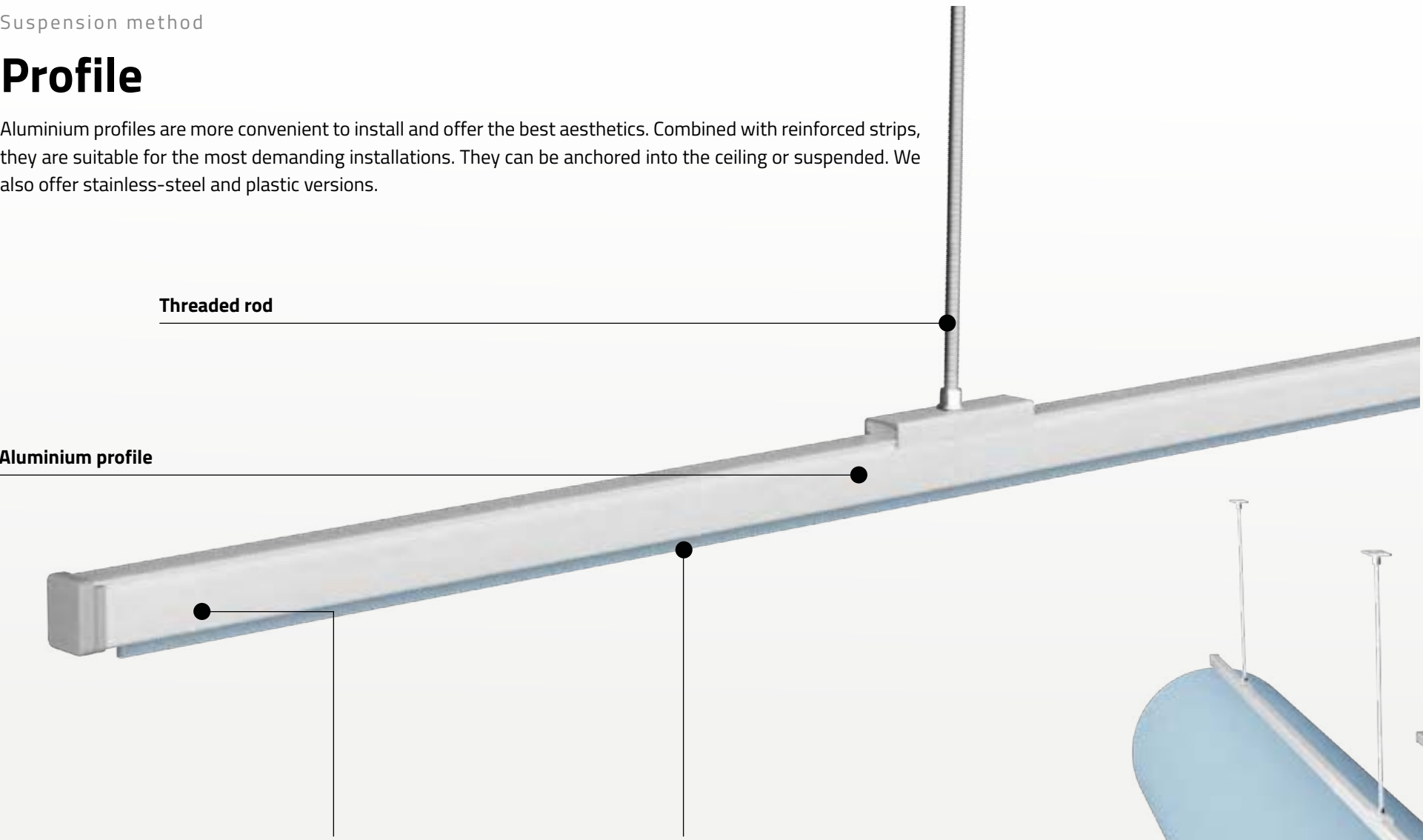
Single suspension

Double suspension

Suspension method

# Profile

Aluminium profiles are more convenient to install and offer the best aesthetics. Combined with reinforced strips, they are suitable for the most demanding installations. They can be anchored into the ceiling or suspended. We also offer stainless-steel and plastic versions.



Threaded rod

Aluminium profile



## Specification

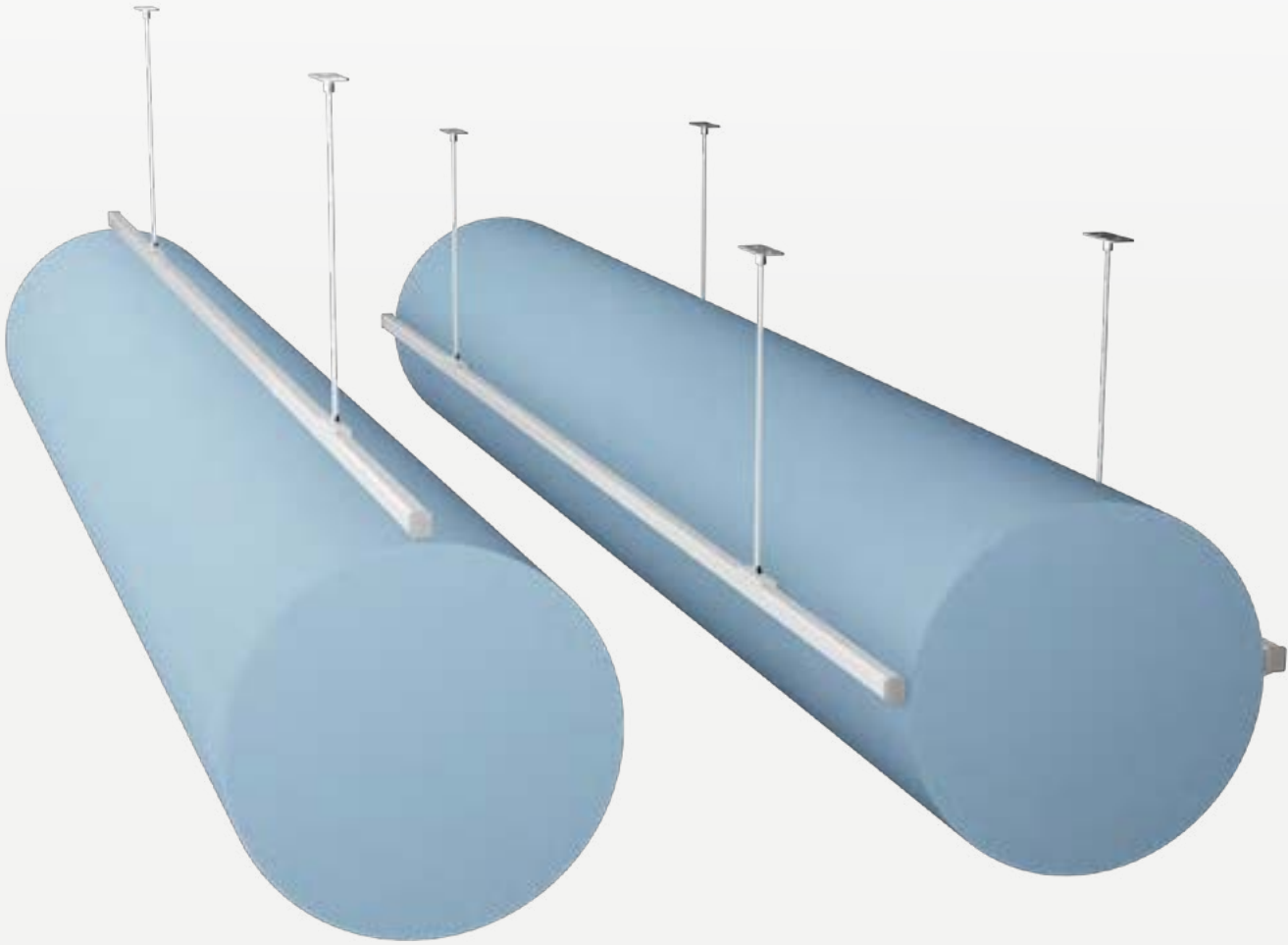
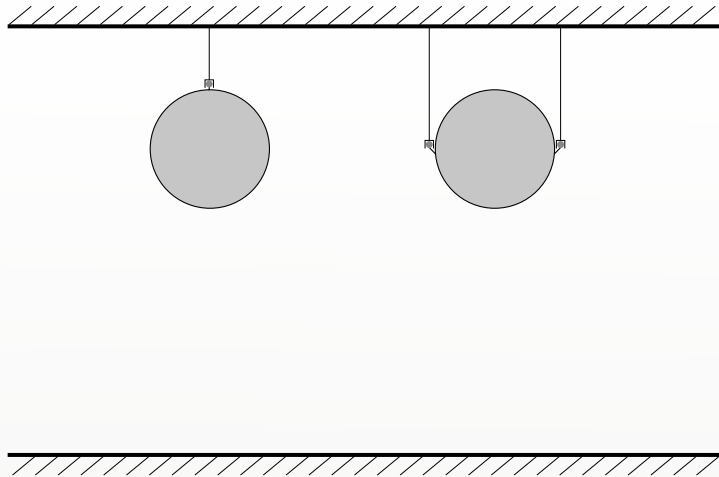
### Tensioner in profile

keeps fabric taut



### Reinforced strip

alternative to plastic hook for better diffuser aesthetics



Single suspension

Double suspension

# Material & Prihoda ART

## Properties of our fabrics

PRIHODA s.r.o. takes great care over the quality of the materials it uses. These are always special fabrics that have undergone a long development process to achieve the highest possible utility value for customers. Prihoda Premium fabrics (PMI/NMI) already offer all the advantages listed below as standard (at no extra charge).



### High strength

Our basic Premium, Classic, Rigid and Recycled fabrics (PMI/NMI, PMS/NMS, PMR/NMR, PMSre/NMSre) offer optimum strength. 1800 N/10mm in the warp, 1000 N/10mm in the weft. This makes it virtually impossible for them to be torn.



### High fire resistance

Our fabrics are certified according to EN 13501-1, with outstanding results. Most of them are classed as B-s1, d0, meaning no spread of fire, minimal smoke and no burning droplets. Our Glass (NHE) fabrics even meet Class A requirements. Our Classic and Premium fabrics (PMI/NMI, PMS/NMS) are also certified in accordance with the UL 723 American standard.



### Negligible particle shedding

As they contain endless fibres, all our fabrics, without exception, can be used in so-called Class 4 cleanrooms. Laboratory tests have demonstrated that there is practically no particle shedding from our material during operation.



### Antistatic effect

The woven carbon fibre in our Premium (PMI/NMI) materials eliminates any build up of electric charge from the surface of the fabric.



### Antibacterial effect

The special treatment used with Premium fabrics (PMI/NMI) guarantees that any bacteria that settle in the fabric are destroyed. This remains just as effective after multiple washes. After ten washing cycles, it still meets the requirement of the standard, meaning a virtually permanent effect due to the low washing frequency (see next point).



### Low maintenance

All our fabrics are made from endless fibres. They are very flat and minimise the build-up of impurities from the air that passes through them. This supply air is distributed through the diffuser perforations, and the fabric ducts remain almost completely clean inside (in a normal environment). This means they require virtually no maintenance other than dusting from the outside. The diffusers are usually only washed for hygienic or aesthetic reasons.



### Stable appearance

Our endless fibre technology means the appearance of the fabric does not change over time, or with multiple washing cycles, unlike materials made of basic fibres. Our Premium, Classic, Economy, Recycled and Rigid (PMI/NMI, PMS/NMS, PMC/NMC, PMSre/NMSre, PMR/NMR) fabrics are not affected by washing.

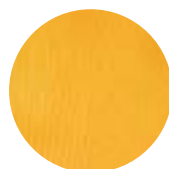
| Classification | Fabric name         | Designation | Permeable | Non air-permeable | Weight (g/m2) | Material         | Warranty (years) | Certification<br>(also valid after minimum of ten washes) |             |                                           |                              |                                 |               | Functionality              |                 |             |            |                  |
|----------------|---------------------|-------------|-----------|-------------------|---------------|------------------|------------------|-----------------------------------------------------------|-------------|-------------------------------------------|------------------------------|---------------------------------|---------------|----------------------------|-----------------|-------------|------------|------------------|
|                |                     |             |           |                   |               |                  |                  | OEKO-TEX STANDARD 100                                     | ANSI/UL 723 | EN 13501-12010<br>(fire resistance class) | EN ISO 14644-1 (clean rooms) | Environmental declaration (EPD) | Antibacterial | Number of standard colours | Special colours | Prihoda ART | Antistatic | Machine washable |
|                |                     |             |           |                   |               |                  |                  |                                                           |             |                                           |                              |                                 |               |                            |                 |             |            |                  |
| REGULAR        | Prihoda Premium     | PMI/NMI     | ✓         | ✓                 | 229 / 205     | 100% PES         | 20               | ✓                                                         | ✓           | B                                         | 4                            | ✓                               | 9             | ✓                          | ✓               | ✓           | ✓          |                  |
|                | Prihoda Classic     | PMS/NMS     | ✓         | ✓                 | 215 / 241     | 100% PES         | 20               | ✓                                                         |             | B                                         | 4                            |                                 | 9             | ✓                          | ✓               |             | ✓          |                  |
|                | Prihoda Economy     | PMC/NMC     | ✓         | ✓                 | 170 / 200     | 100% PES         | 10               | ✓                                                         |             | B                                         | 4                            |                                 | 4             | ✓                          | ✓               |             | ✓          |                  |
| SPECIAL        | Prihoda Recycled    | PMSre/NMSre | ✓         | ✓                 | 215 / 236     | 100% PCR, PES    | 20               | ✓                                                         |             | B                                         | 4                            | ✓                               | 4             | ✓                          | ✓               |             | ✓          |                  |
|                | Prihoda Rigid       | PMR/NMR     | ✓         | ✓                 | 320 / 352     | 100% PES         | 20               | ✓                                                         |             | B                                         | 4                            |                                 | 4             | ✓                          | ✓               |             | ✓          |                  |
|                | Prihoda Light       | PLS/NLS     | ✓         | ✓                 | 77 / 95       | 100% PES         | 5                | ✓                                                         |             | B                                         |                              |                                 | 4             | ✓                          | ✓               |             | ✓          |                  |
|                | Prihoda Plastic     | NMF         |           | ✓                 | 300           | 100% PES, 2x PVC | 5                |                                                           |             | B                                         |                              |                                 | 4             |                            |                 |             |            |                  |
|                | Prihoda Glass       | NHE         |           | ✓                 | 460           | 100% GL, 2x PUR  | 2                |                                                           |             | A                                         |                              |                                 | 7             |                            |                 |             |            |                  |
|                | Prihoda Foil        | NLF         |           | ✓                 | 85            | 100% PE          | 2                |                                                           |             | F                                         |                              |                                 | 1             |                            |                 |             |            |                  |
|                | Prihoda Translucent | NMT         |           | ✓                 | 385           | 90% PVC, 10% PES | 2                |                                                           |             | C                                         |                              |                                 | 1             |                            |                 |             |            |                  |
|                | Prihoda DefrosTex   | NLD         |           | ✓                 | 75            | 100% NY          | 1                |                                                           |             | F                                         |                              |                                 | 1             |                            |                 |             | ✓          |                  |



### Standard colours



**WH**  
RAL 9016



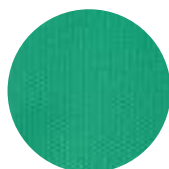
**YE**  
Pantone 135  
RAL 1017



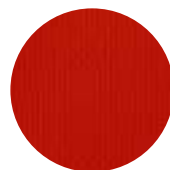
**LG**  
Pantone 420  
RAL 7035



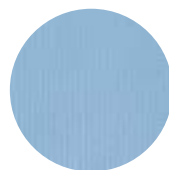
**DG**  
Pantone 424  
RAL 7037



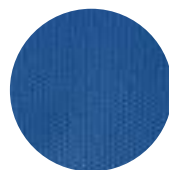
**GR**  
Pantone 341  
RAL 6024



**RE**  
Pantone 187  
RAL 3001



**LB**  
Pantone 2915  
RAL 5012



**BL**  
Pantone 7462  
RAL 5005



**BC**  
Pantone 419  
RAL 9017

RAL and Pantone shades are approximate only. To select an exact shade, please request a materials swatch book.

Ducting as a design element

## Prihoda ART

The ability to print on fabrics add a new aesthetic dimension to products, making them an interesting interior feature. We produce fabric ducting and diffusers in any colour according to RAL or Pantone swatches or with any pattern, photo, image, logo or lettering. The technology we use infuses the fabric with molecular-based dyes, guaranteeing an unlimited lifetime.



Special colours



Logos and patterns



Lettering



Photographs

# Maintenance

One of the main benefits of fabric diffusers is how easy they are to clean. All our diffusers are manufactured from high quality and durable materials with no natural fibre additives. The material used is specified when the technical details of the order are drawn up. Almost all Prihoda fabrics are machine washable with the option to use disinfectant additives, ensuring a perfectly clean result. Certain special fabrics need to be cleaned by hand.



## Machine washing

Suitable for materials

**PMS/NMS, PMI/NMI, PLS/NLS, PMC/NMC, PMSre, NMSre, PMR/NMR, NLD**



## Hand washing/cleaning

Suitable for materials

**PMS/NMS, PMI/NMI, PLS/NLS, PMC/NMC, PMSre, NMSre, PMR/NMR, NLD, NMF, NLF, NHE, NMT**

## Washing label

The washing label contains symbols showing the recommended maintenance and identifying the relevant part. It is sewn on the inside by each zipper.

1. Identification of the part and order
2. Data supplied by the customer
3. Material and washing symbols
4. Manufacturer's contact details
5. Month and place of manufacture

For more about the maintenance of PRIHODA diffusers, scan the QR code:



// Chapter 06 //

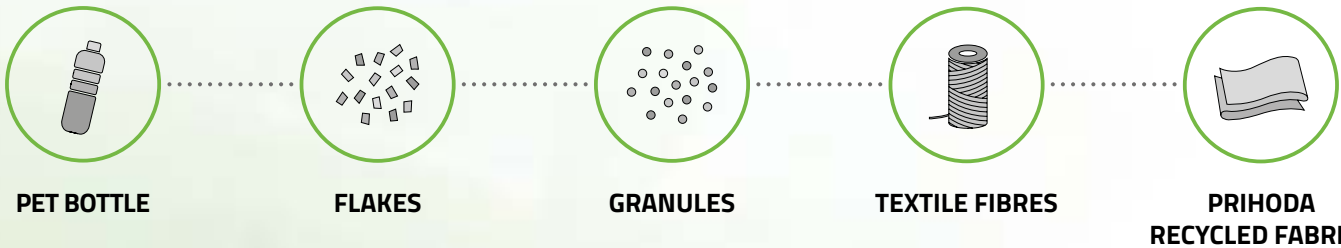
Prihoda RECYCLED

EVERY 1M<sup>2</sup> OF PRIHODA RECYCLED FABRIC SAVES 13 PET BOTTLES FROM ENDING UP ON LANDFILLS AND OCEAN



We are the only manufacturer of fabric diffusers and ducting that uses 100% recycled material. Our fabrics have been developed especially to enable us to meet the most stringent quality and technical requirements placed on fabric diffusers and ducting. We work with Unifi, a global fabric company that supplies us with REPREEVE recycled fibres made from used PET bottles. The result is a product in line with the principles of sustainable development. Fabric diffusers and ducting made from PMSre / NMSre look and perform just like PMS / NMS made from conventional fabrics, which are fire resistant and suitable for cleanrooms.

The U-TRUST authentication system using Fiberprint technology ensures that Prihoda products made from REPREEVE recycled fibres are traceable and documentable. This assures the customer that the product they receive really is made from recycled materials.



Specification



EPD environmental declaration

REPREEVE recycled fibre is manufactured by the global fabric company Unifi and certified by SCS Global. We have decided to go even further and have been awarded the Environmental Product Declaration certificate, which evaluates the life cycle of Prihoda fabrics made from recycled material.

100% RECYCLED

FIRE RESISTANCE

SUITABLE FOR CLEANROOMS

20-YEAR WARRANTY

# Why fabric diffusers?



EN  
2025



**Hot Water Heat Pumps Ltd.**

 3 Corban Avenue, Henderson, Auckland, New Zealand

 0800 33 66 33  [info@waterheating.co.nz](mailto:info@waterheating.co.nz)

 [www.waterheating.co.nz](http://www.waterheating.co.nz) / [www.prihoda.co.nz](http://www.prihoda.co.nz)



HOT WATER  
HEAT PUMPS



PRIHODA