

FabricAir

HVAC for Architects:

5 steps for enhancing
your projects with fabric ducts





Introduction

Architects and engineers are constantly seeking innovative and efficient solutions for their projects. In the world of HVAC systems, there's an alternative solution you might not have considered: fabric air dispersion systems.

These systems offer a host of benefits from enhanced air distribution to ease of installation, making them a compelling choice over traditional metal ductwork. In this white paper, we'll delve into the world of fabric ducts and guide you through the process of incorporating them into your designs.

Why should you choose fabric?

Before we dive into the design process, let's take a moment to understand why fabric ducts are gaining popularity in the industrial architecture and HVAC industry.

- **Precise Airflow Distribution:** Fabric ducts excel at delivering consistent and draft-free airflow. They distribute air evenly throughout the occupied space, eliminating hot and cold spots, which can be challenging to achieve with traditional metal ductwork.
- **Aesthetic Appeal:** Fabric ducts offer a sleek and unobtrusive design. They blend seamlessly with modern architectural aesthetics, making them a visually appealing choice for projects with open and exposed ceilings. Fabric systems allow for aesthetic expression and design in shapes, transitions, profiles and flow models to create a clean and attractive appearance. Unlike conventional metal solutions, fabric is free from rigid joints, corrugations, duct sealant, and paint streaks.
- **Reduced Installation Time:** Fabric ducts are remarkably easy to install, resulting in reduced labor costs and project timelines. The system typically arrives on the job site within 2-3 weeks and can be installed 4x faster than conventional metal ducts. No special tools or specialized skills are required for installation which can be a significant advantage in fast-track construction projects.
- **Energy Efficiency:** Utilizing fabric ducts can save up to 40% on the cost to run a ventilation system. Fabric ducts are designed for optimal airflow efficiency, reducing energy consumption compared to metal ductwork.
- **Cost Savings:** In addition to savings from increased energy efficiency, choosing fabric duct systems over traditional metal systems can save up to 70% on total installed costs.



**HOW TO ADD
FABRIC DUCT
TO YOUR DESIGN**





Determine Cubic Feet
per Minute (CFM) and Air
Handling Unit (AHU)



Determine efficient
layout for duct



Consider the layout of
the space



Where and how the
duct be mounted



Function of the space





Bright white fabric ducts are installed in this indoor pool area to improve indoor air quality for swimmers. Fabric is ideal for applications where high humidity can cause condensation or corrosion which can lead to damaging rust and debris.

5 Key Considerations

The benefits of using fabric over metal are clear, but there are a few things you'll need to collect before you incorporate fabric ducts into your architectural project. These fundamental aspects are the building blocks of a well-executed fabric duct system. From calculating the Cubic Feet per Minute (CFM) to understanding the unique requirements of the space, let's explore the essential elements that should be on your radar. Here are the key points you need to know before seamlessly integrating fabric ducts into your design:

1. Determine CFM (Cubic Feet per Minute): Start by calculating the required CFM for your space. This information will help you specify the diameter of the fabric ducts needed to deliver the desired airflow.

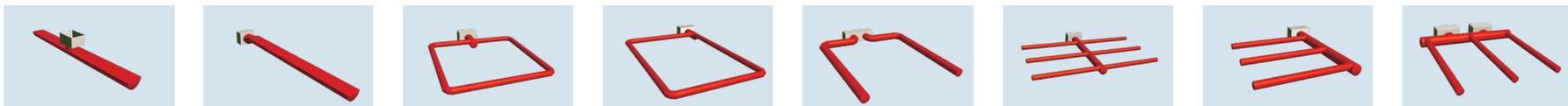
***Select the Right Air Handling Unit (AHU):** To specify the appropriate fabric for the application and space, you must consider the type of Air Handling Unit in use. The AHU's capacity and specifications will guide your fabric selection.

2. Formulate Duct Layout: The layout of the fabric ducts is essential to determine the quantity of materials required. Accurate measurements ensure an efficient and cost-effective solution.

3. Space Layout: Consider the layout of the space, including occupancy patterns and obstacles. This will help you identify optimal air dispersion locations, the type of hardware required, and other critical design elements.

4. Mounting Height: The mounting height of the fabric ducts influences the type of air flow model needed for the space. Different mounting options, such as overhead or perimeter mounting, cater to varying architectural configurations.

5. Function of the Space: The purpose of the space plays a significant role in fabric and dispersion type selection. Whether it's an industrial workspace, a commercial area, or a cleanroom environment, the fabric ducts should align with the specific indoor air quality requirements.



CONCLUSION:
FABRIC
IS THE FUTURE



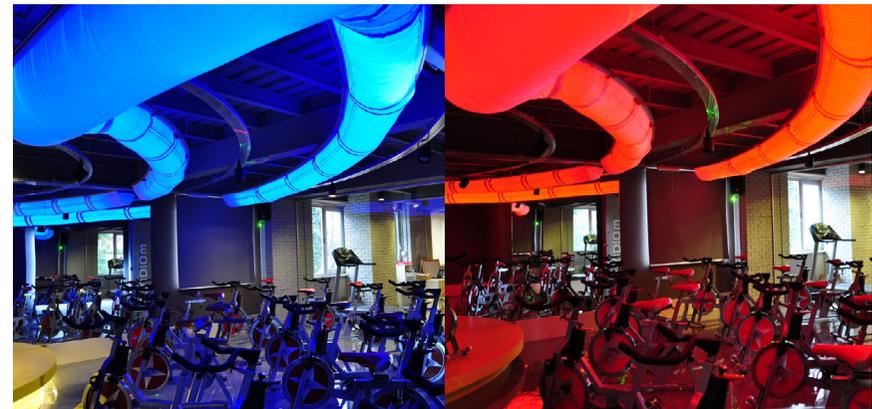
Fabric air dispersion systems offer industrial architects an exciting opportunity to enhance the functionality and aesthetics of their designs. By incorporating fabric ducts, you can achieve precise airflow distribution, reduce energy consumption, and streamline the installation process.

Remember, successful integration of fabric ducts into your designs begins with a thorough understanding of the project's needs, including CFM calculations, duct length, space layout, mounting height, AHU selection, and the function of the space. With these considerations in mind, you can harness the potential of fabric air dispersion systems to create more efficient, visually appealing, and comfortable industrial environments.

Why not make the switch and experience the benefits of fabric ducts in your next project? FabricAir's team of experts are available to help you with your design. We'll get back to you within 24 hours with answers to your questions or a quote on your project!

ADDITIONAL RESOURCES

- [HVAC MADE FOR ARCHITECTS](#)
- [FABRIC VS. METAL DUCTING: 5 KEY DIFFERENCES FOR ARCHITECTS](#)
- [FABRICAIR PRODUCT CATALOG](#)



Half-round or “D-shaped” fabric ducts installed in a fitness center to provide efficient airflow to occupants also adds aesthetic appeal with LED lighting. The low profile shape is ideal for lower ceiling heights where there is limited clearance.



ABOUT THE AUTHOR

Billy Farr is the Inside Sales and Support Manager for FabricAir, Inc., responsible for leading the Inside Sales team and assisting customers throughout North America. He is an expert in engineering systems for challenging environments including natatoriums where high humidity and corrosive chemicals are a dangerous combination with traditional metal ductwork. Billy has a degree in Engineering from the University of Georgia, an MBA from the University of West Georgia and more than 10 years of experience custom-engineering fabric duct systems for a variety of applications. His work includes projects for Tesla, New Balance, Stellantis, Goldfish Swimming Schools, and Tommy Car Wash.

ABOUT FABRICAIR

As a pioneer of fabric-based air distribution solutions, FabricAir became a trustworthy and competent HVAC partner for many architects and consulting engineers worldwide. We are proud to have a team of highly skilled professionals who have decades of experience and know-how in the HVAC field. Our competence in what we do has built the trust of leading brands from various industries all over the world for over 50 years.

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