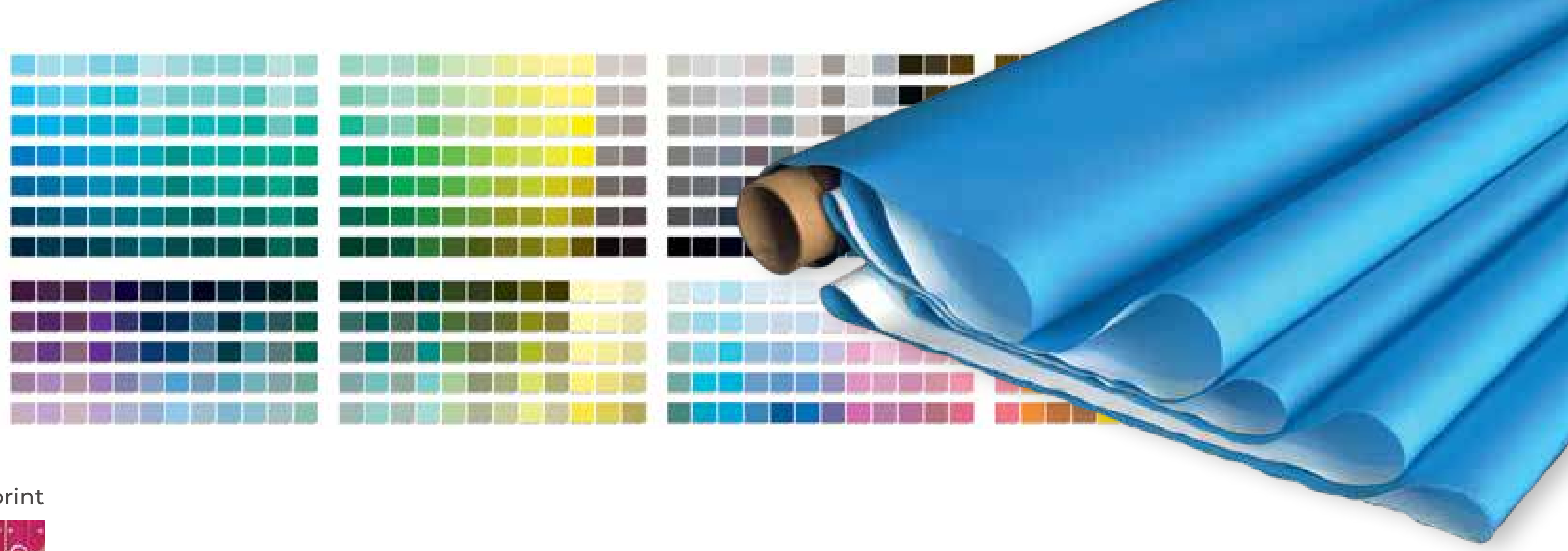
Look up for a colorful change

When deciding on a surface print custom color, please request the latest edition of the color swatch (surface print color card) from your local FabricAir office. To ensure the best results, it is important that your order contains the current color code from the color swatch.



Custom color print

Custom color print

Custom color DYE

Colors and Patterns:

Custom colors, special dyes & surface print

FabricAir ducts are available in a variety of standard colors using dyed fabrics or dyed yarns. Custom dyes are optional with FabricAir® Trevira fabrics. Surface printing technology is available for colors and patterns with FabricAir® Trevira and FabricAir® Combi fabrics.

Surface printing is a technique used to create custom colored ducts or ducts with seamless patterns from white fabrics. Contrary to special dyes, the surface print technology is used to apply custom color or patterns to the surface of the duct. The inside of the duct remains white, which in some instances may be seen through large perforations, orifices or nozzles.

Seamless patterns add a decorative element to the ductwork. They require specially adapted designs or motifs to ensure seamless repeatability and applicability, as they cover the entire circumference of the duct.

Nozzles, sliders and hooks come in red, blue, white, black, orange or gray. The standard color combinations can be altered upon request within the available color schemes.


Logos
Artwork

Artwork, Logos & Lettering

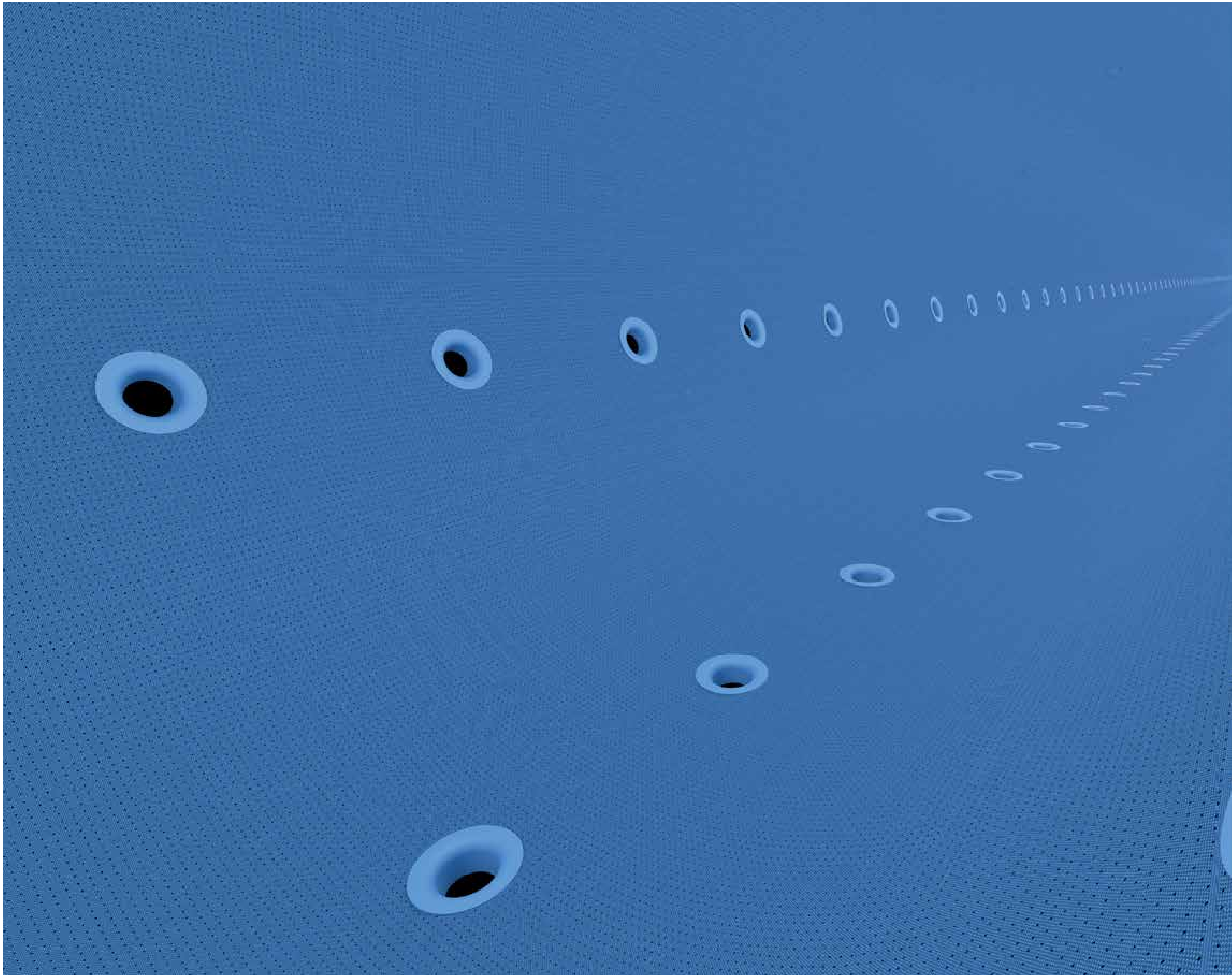
Logos and lettering on ducts can be used to brand your company or send specific messages. It is created using heat transfer. The print placement is determined by the duct's location in the room and the typical positioning of the onlooker. For example, in sports facilities, the print is angled downward to make it look natural to the spectators.

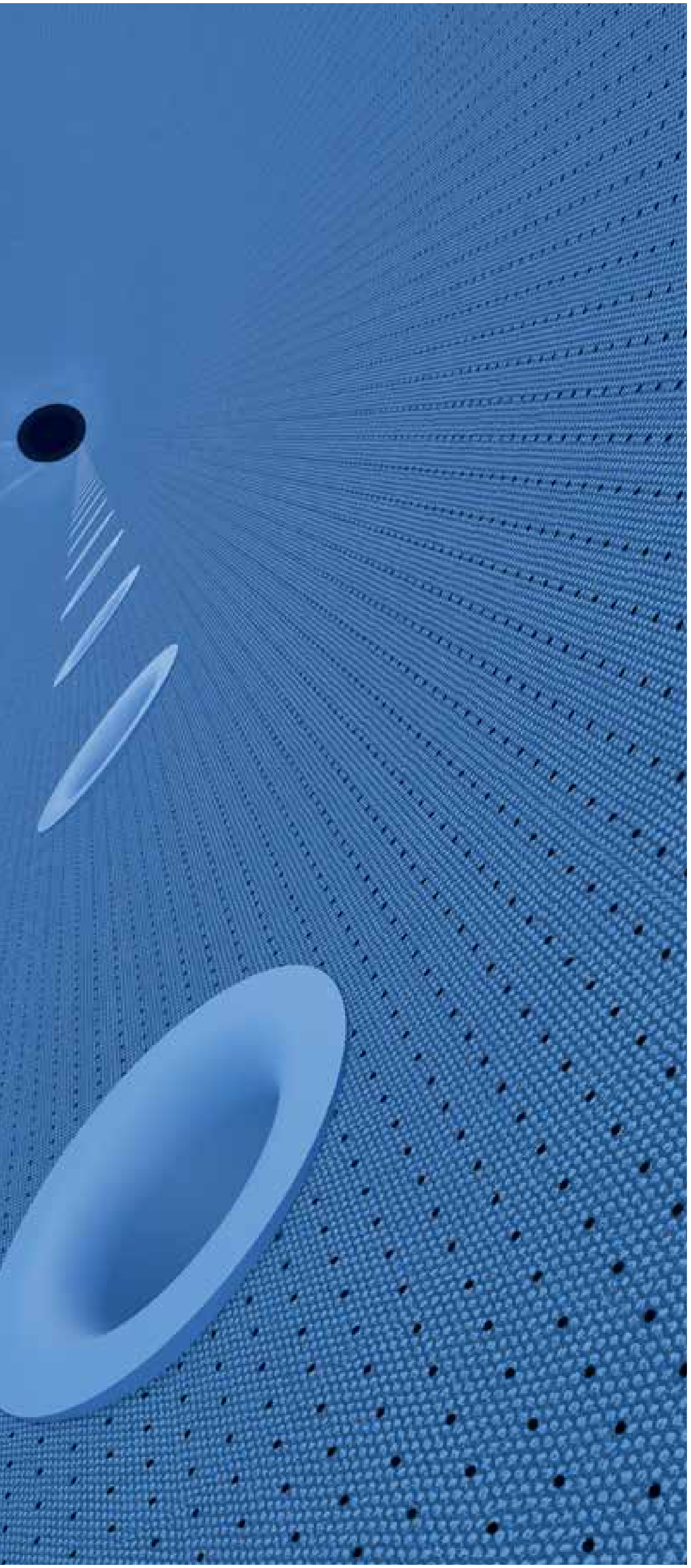
There is no limitation on the logo types or colors, and the print will not fade over time or in case of washing.

Lettering

BRANDED DUCTWORK

Use your ductwork to send messages or brand your company toward employees, visitors or facility users. Adding logos, lettering or artwork personalizes your air dispersion solution.



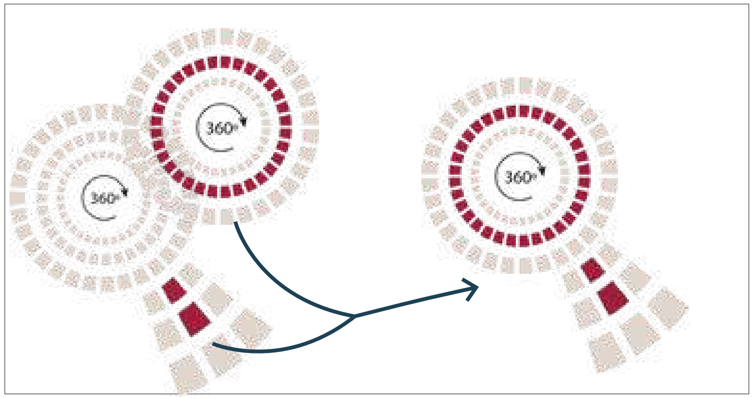


FLOW MODELS

FabricAir offers a wide variety of flow models that can be combined to create the ideal air distribution, addressing any specific project challenges.

The ideal air dispersion often consists of primary and secondary airflows in combination, depending on throw requirements. The primary airflow addresses the main issue, whereas the secondary airflow is used to ensure that no condensation builds up on the duct in humid environments.

It is of utmost importance to understand the type of space that is being conditioned in order to select the appropriate flow models, especially in applications that are intended to maximize occupant comfort.



COMBINING FLOW MODELS

By combining flow models the ideal airflow is achieved regardless of the project complexity.

Surface and Directional Flow Models

SURFACE TECHNOLOGY

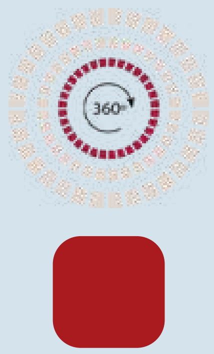
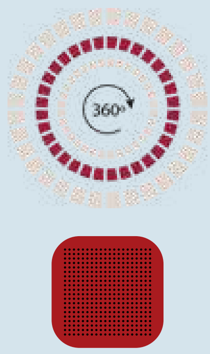
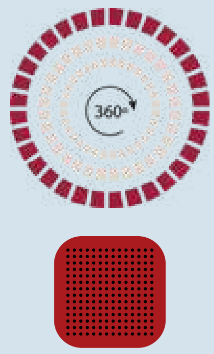
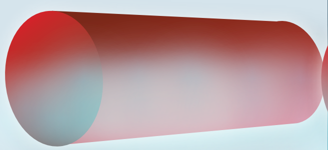
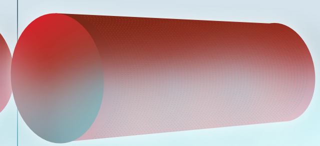
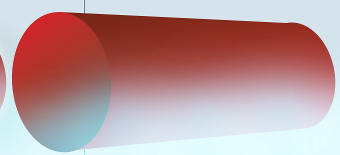
Surface flow models distribute the air through the surface of the duct either through permeable fabrics or perforations covering a minimum of 25% of the surface. These flow models are often used as primary flow or as secondary flow in combination with a directional flow model.

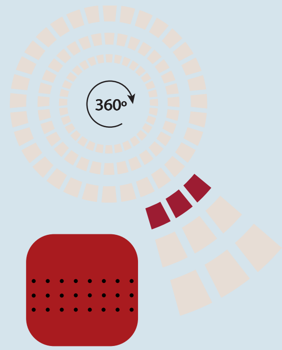
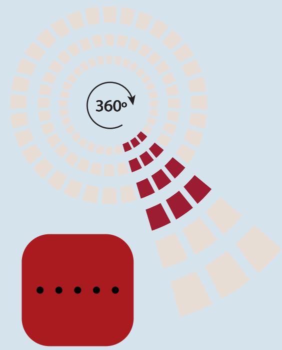
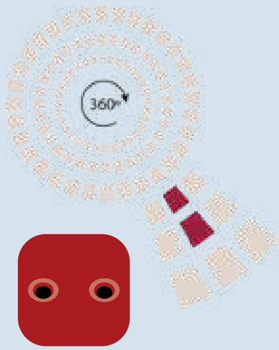
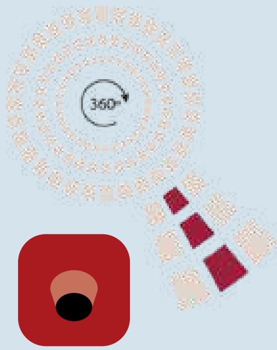
Perforations may cover between 25% to 100% of the duct's surface area. Surface flow technology is often used to prevent dust and other particles from accumulating inside or on the duct's surface, making it virtually maintenance-free. Surface technology also prevents condensation from forming in or around the duct's near zone.

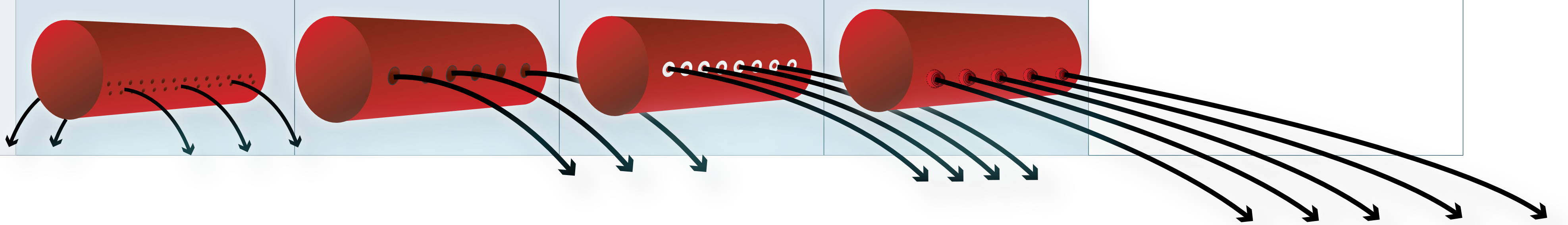
DIRECTIONAL TECHNOLOGY

Directional flow models will have a row or more of air distribution placed along the length of the duct at any desired position to deliver the air exactly where it is needed.

Directional technology is typically used for the primary airflow and comprise flow models with low, medium and long throws. The flow models can be combined as necessary to achieve the desired air distribution patterns.

Surface Flow Models		
FABFLOW™	MICROFLOW™	PERFOFLOW™
		
Permeable	Microperforations 0,2–0,6 mm [0.008–0.024 in] diameter	Perforations 3,0–14,0 mm [0.12–0.55 in] diameter
Near-zone: Null (surface velocity below 0,5 m/s or [100 fpm])	Near-zone: Maximum 300 mm [11.8 in]	Near-zone: up to 6,400 mm [21 ft]
✓	✓	✓
✓	✓	✓
✓	✓	✓
✓	✓	✓
✓	✓	✓
		

Directional Flow Models				
SONICFLOW™	ORIFLOW™	NOZZFLOW™	JETFLOW™	
				Download data sheets fabricair.com
Perforations 3,0–14,0 mm [0.12–0.55 in] diameter	Orifices 14,1–125,0 mm [0.56–4.92 in] diameter	Nozzles 18,0 mm [0.71 in] diameter	Jets 50,0 to 250,0 mm [1.97–9.84 in] diameter	**Flow Model Technology**
9,0–18,0 m/s [1.772–3.543 fpm]	9,0–18,0 m/s [1.772–3.543 fpm]	9,0–30,0 m/s, and more [1.772–5.905 fpm, and more]	9,0–30,0 m/s, and more [1.772–5.905 fpm, and more]	**Exit Velocity (or near-zone)**
Medium/directional	High/directional	High/directional	High/directional	**Throw**
✓	✓	✓	✓	**Round Profile**
✓	✓	✓	✓	**D-Shaped / Half-Round Profile**
✓	✓	✓	✓	**Circle Section Profile**
✓	✓	✓	✓	**Rectangular Profile**
✓	✓	✓	✓	**FabricAir® VarioDuct™**



FabFlow™

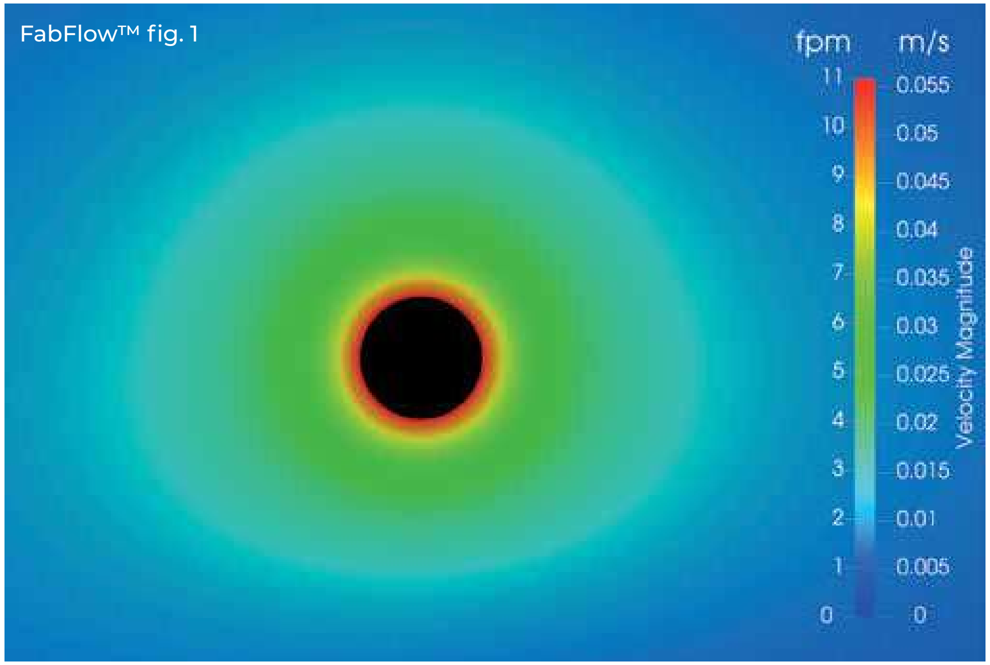
In FabFlow™, the air exits the duct through the permeable fabric surface. The air is driven by thermodynamic forces, preventing drafts in the occupied zone. This results in a high level of comfort.

The density of the air drives the air dispersion. To ensure proper mixing without drafts the ΔT should not exceed 4°C [39.2F] when using FabFlow™ as the primary flow model.

As a secondary flow model it is often used to prevent condensation on the duct surface and/or dust from settling on the duct.

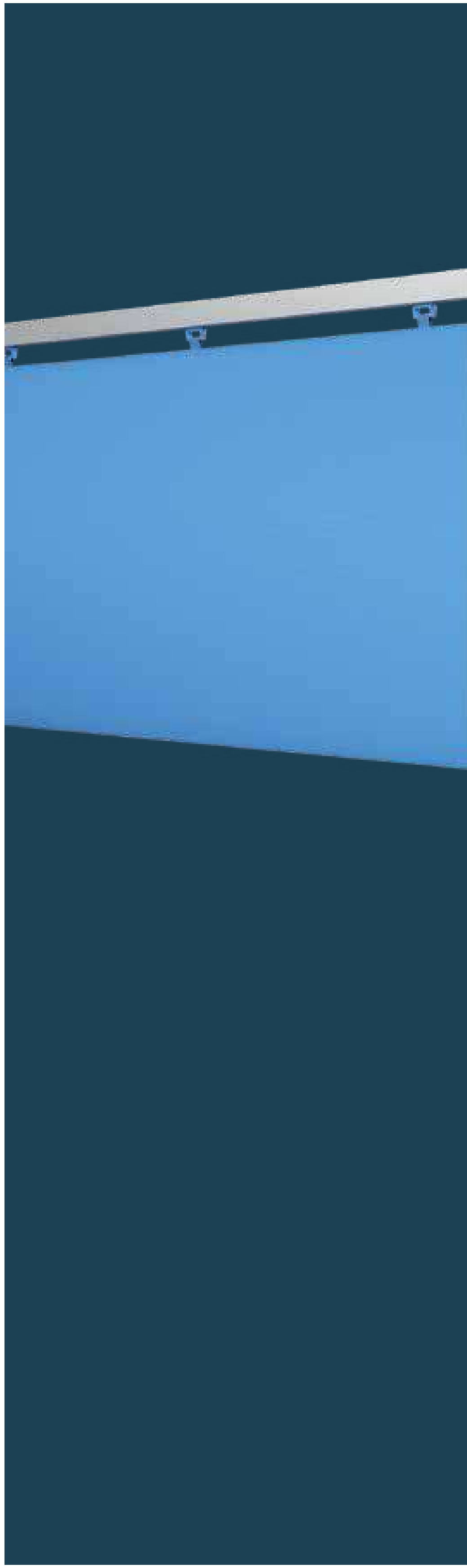
As a primary flow model, the typical applications are areas highly sensitive to drafts and for comfort ventilation. It is often found in working rooms in the food industry, laboratories, professional kitchens and offices, often with a low ceiling heights, and the air distribution is generated based on temperature differences only.

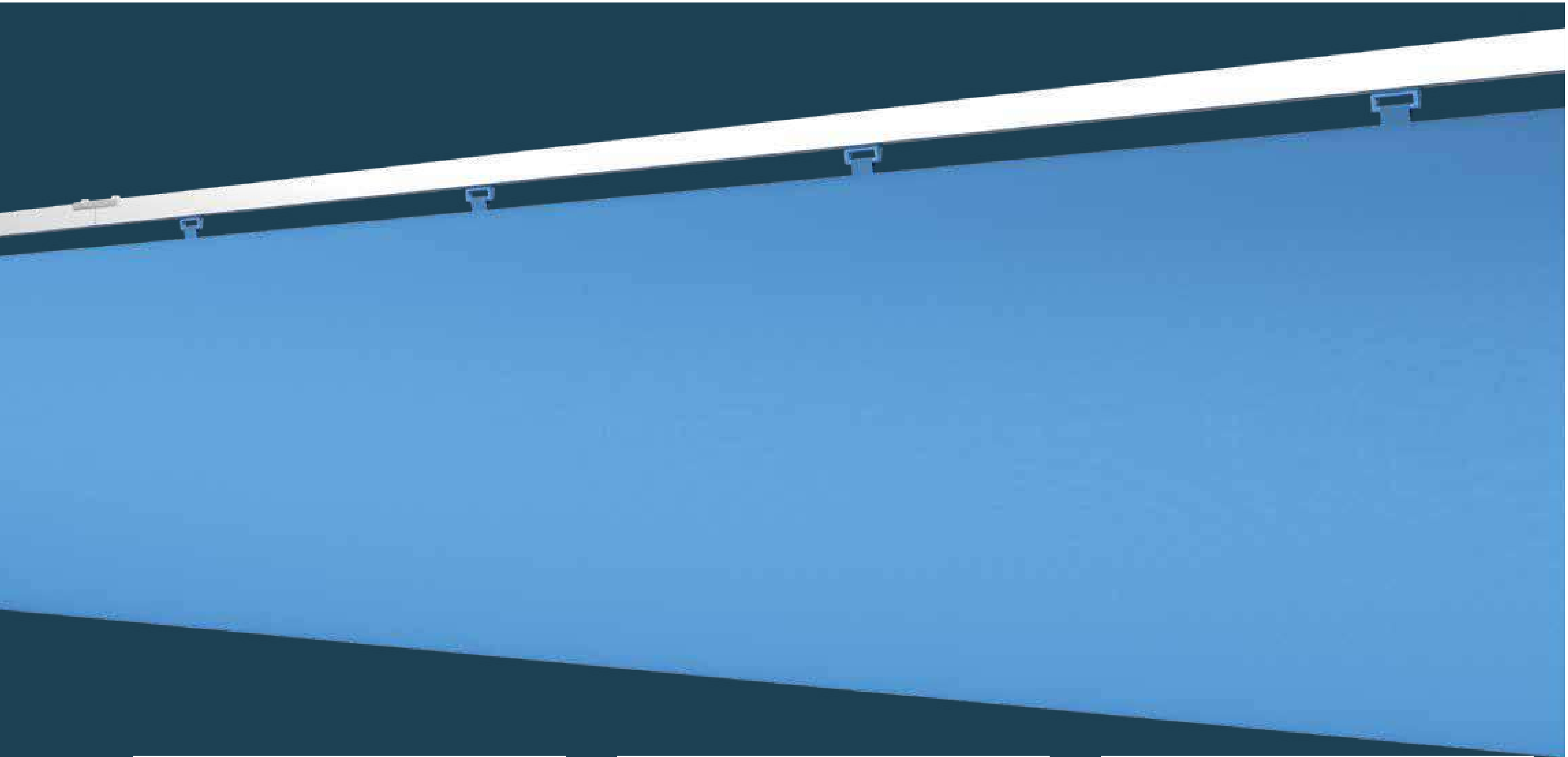
Air discharge through FabFlow™ of permeability 200 m³/h/m² [10 CFM/ft²] at 120 Pa [≈0.5 iwg]. Isothermal conditions.

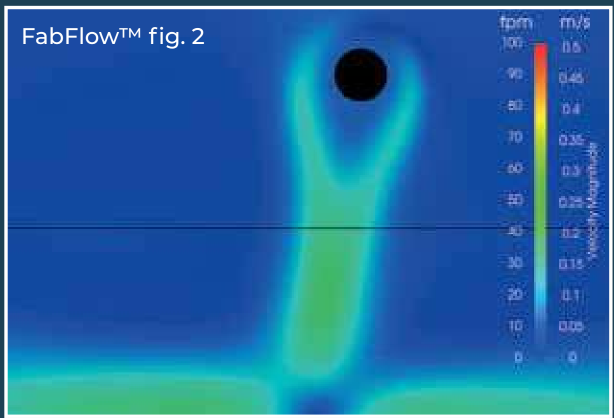


FabFlow™ fig. 1

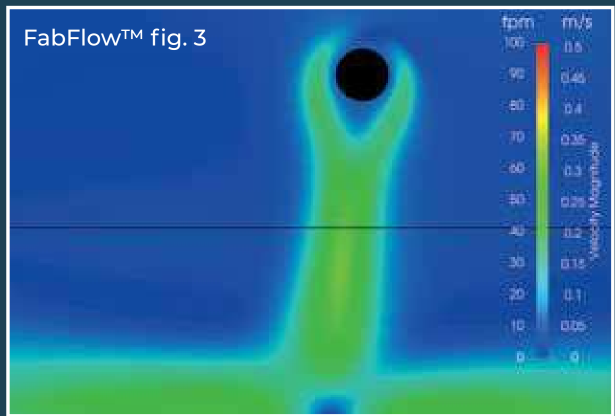
Examples of CFD simulations with FabFlow™ at 3 m [≈10 ft] above floor level. The occupied zone is indicated by the black line 1.8 m [≈6 ft] above floor level. Cold air exits the duct and moves downward due to thermodynamic forces. The gentle air diffusion accumulates and develops a uniform airflow as temperature difference increases. The airflow gains more momentum and the velocity increases with the distance from the duct.



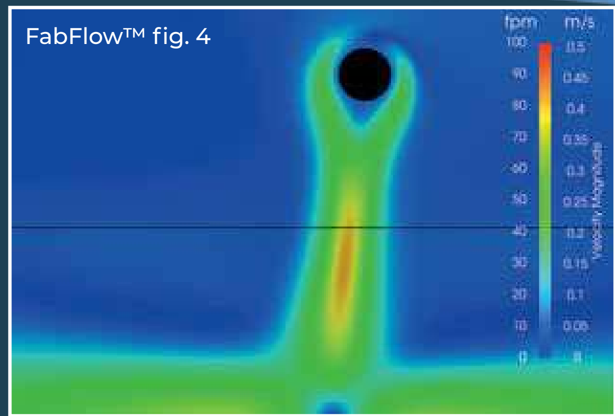




FabFlow™ fig. 2



FabFlow™ fig. 3



FabFlow™ fig. 4

ΔT impact on air pattern

Air permeability 200 m³/h/m² [10 CFM/ft²] at 120 Pa [≈0.5 iwg], cooling with ΔT of -1 K. High level of comfort is achieved.

Air permeability 200 m³/h/m² [10 CFM/ft²] at 120 Pa [≈0.5 iwg], cooling with ΔT of -3 K. Increased cooling capacity and draft still avoided.

Air permeability 200 m³/h/m² [10 CFM/ft²] at 120 Pa [≈0.5 iwg], cooling with ΔT of -5 K. Micro-perforation enables a higher cooling capacity while keeping the occupied zone draft-free.

MicroFlow™

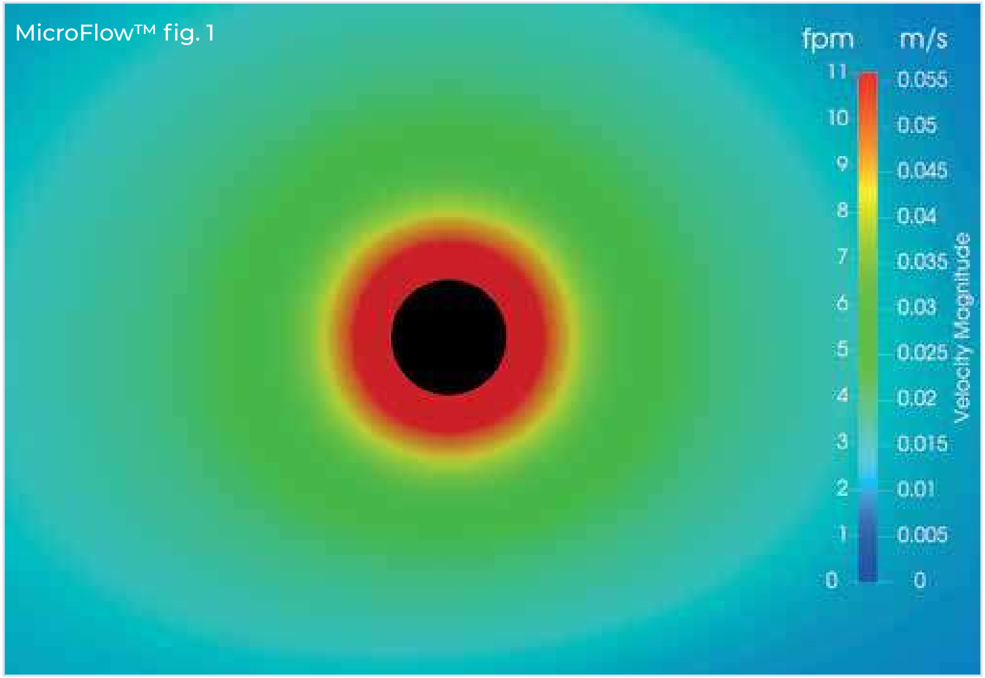
With MicroFlow™, the air exits the duct via laser-cut micro-perforations on a larger percentage of the duct's surface area. When used as the primary flow model, the perforated area covers between 25% to 100% of the duct's surface area.

MicroFlow™ has the smallest near-zone of all of the perforated fabrics available; the near-zone will not extend beyond 300 mm [≈12 in].

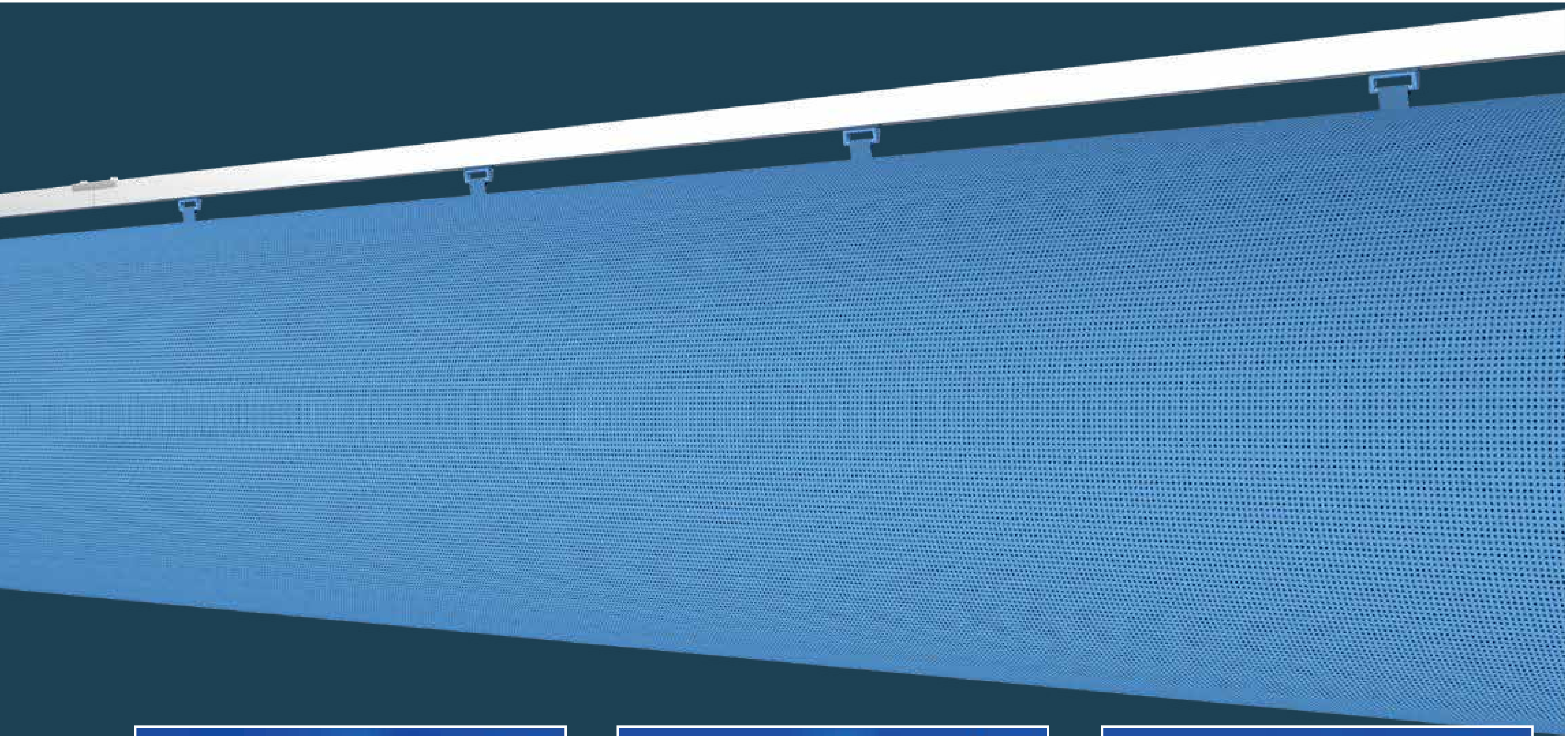
MicroFlow™ is used for thermal displacement with low velocity air dispersion in rooms with low to medium ceiling heights. The dispersed air falls slowly to the floor, shifting the hot air up and out, thus creating a pleasant and comfortable indoor environment in the occupied zone. Due to the extended near-zone, MicroFlow™ enables a larger ΔT than FabFlow™ without causing drafts.

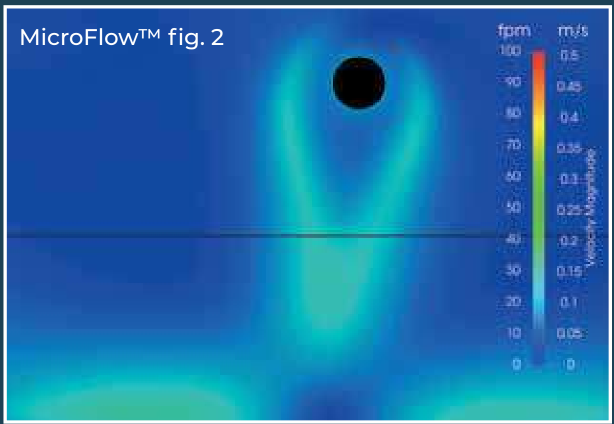
As a primary flow model, the typical application is comfort ventilation where the ducts are placed relatively close to the occupied zone. It is often found in the food industry, offices, schools and the graphics and pharmaceutical industries.

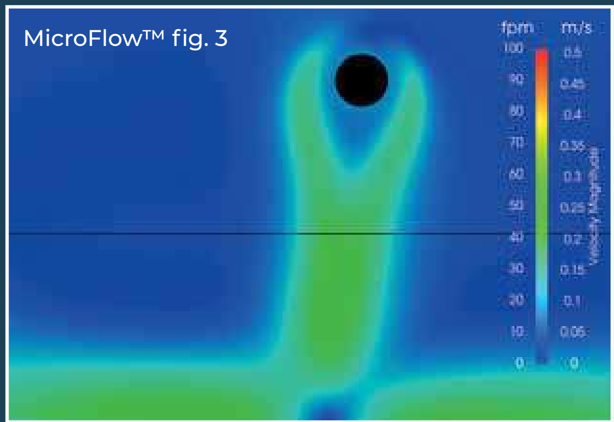
Air discharge through MicroFlow™ of permeability 200 $m^3/h/m^2$ [10 CFM/ft^2] at 120 Pa [≈0.5 iwg]. Isothermal conditions.

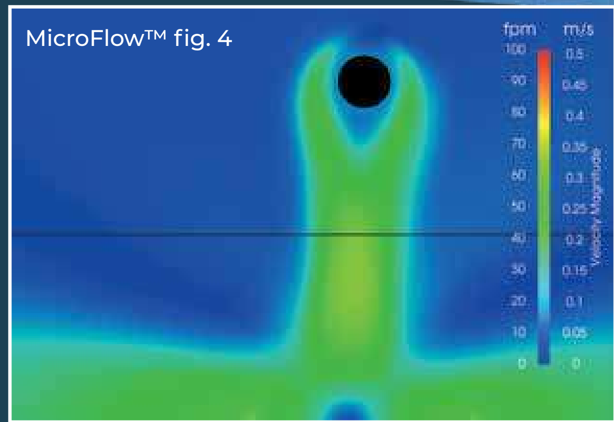


Examples of CFD simulations with MicroFlow™ at 3 m [≈10 ft] above floor level. The occupied zone is indicated by the black line 1,8 m [≈6 ft] above floor level. When the cold air exits the duct, it moves downward due to thermodynamic forces and merges into a uniform airflow that gains momentum as it moves away from the duct.









ΔT impact on air pattern - increased cooling capacity

Air permeability 200 $m^3/h/m^2$ [10 CFM/ft^2] at 120 Pa [≈0.5 iwg], cooling with ΔT of -1 K. High level of comfort is achieved.

Air permeability 200 $m^3/h/m^2$ [10 CFM/ft^2] at 120 Pa [≈0.5 iwg], cooling with ΔT of -3 K. Increased cooling capacity and draft still avoided.

Air permeability 200 $m^3/h/m^2$ [10 CFM/ft^2] at 120 Pa [≈0.5 iwg], cooling with ΔT of -5 K. Micro-perforation enables a higher cooling capacity while keeping the occupied zone draft-free.

PerfoFlow™

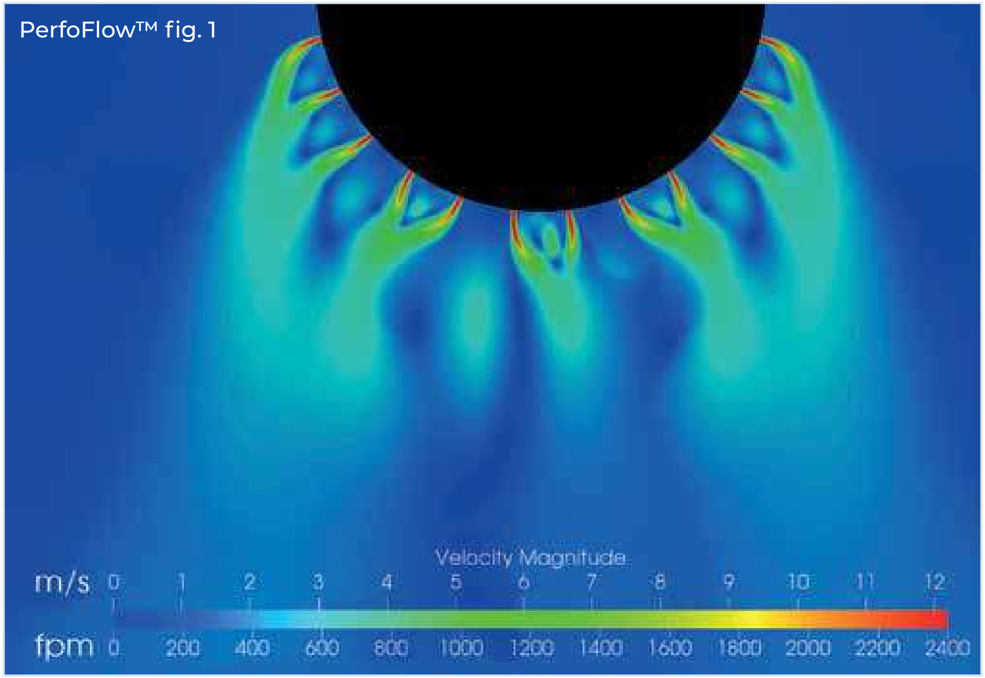
With PerfoFlow™, the air exits the duct via laser-cut perforations covering a larger percentage of the duct's surface area. When used as the primary flow model perforations cover between 25% to 100% of the total surface area.

The size of the near-zone depends on the static pressure inside the duct, the percentage of the surface that is perforated and the size and spacing of the perforations.

PerfoFlow™ enables distribution of large volumes of air in a non-specific direction; hence, high accuracy in the design phase is important. Careful engineering will ensure maximum efficiency without sacrificing the comfort of the workers.

As a primary flow model, it is typically used for make-up air in industrial applications with high ceiling heights and a need for large airflows to replace high levels of exhausted process air, such as painting and printing facilities, where air is extracted intensively to eliminate fumes and pollutants.

Air discharge through PerfoFlow™ perforation at 120 Pa [≈0.5 iwg].



With PerfoFlow™, each perforation hole forms a separate air jet. As the air jets move away from the duct, they merge into confluent jets, which then merge together ultimately forming a uniform air diffusion. The resulting air diffusion will depend on many factors, including the size of holes and distance between them, perforation pattern and static pressure inside the duct.