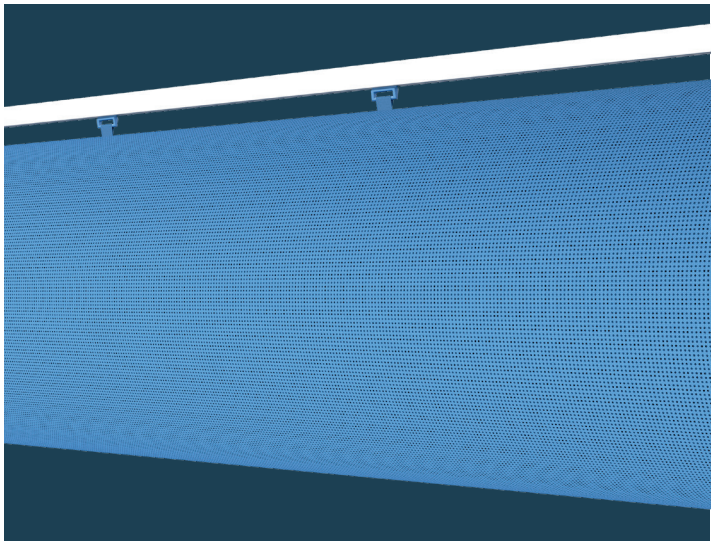
MicroFlow™

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].

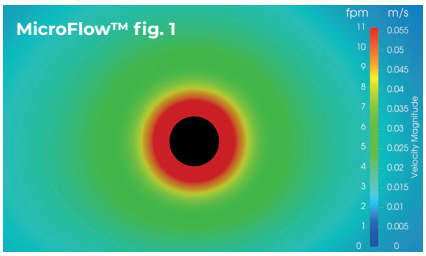
MicroFlow™ is used for thermal displacement with low velocity air dispersion in rooms with low to medium ceiling heights. The dispersed air falls slowly to the floor, shifting the hot air up and out, thus creating a pleasant and comfortable indoor environment in the occupied zone. Due to the extended 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 utilized in food processing, offices, schools and pharmaceutical applications.

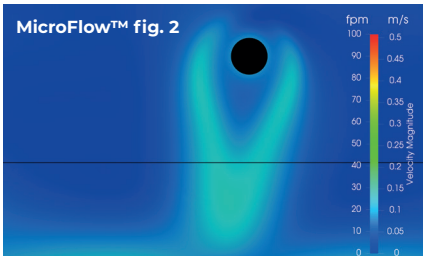


Examples of CFD simulations with MicroFlow™ at 3 m [≈10 ft] above floor level. The occupied zone is indicated by the black line 1,8 m [≈6 ft] above floor level. When the cold air exits the duct, it moves downward due to thermodynamic forces and merges into a uniform airflow that gains momentum as it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

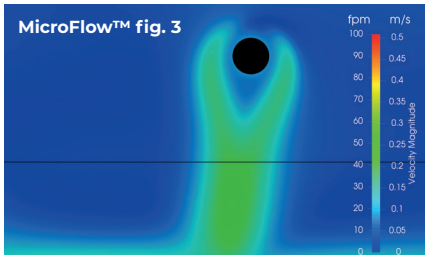
ΔT impact on air pattern - increased cooling capacity



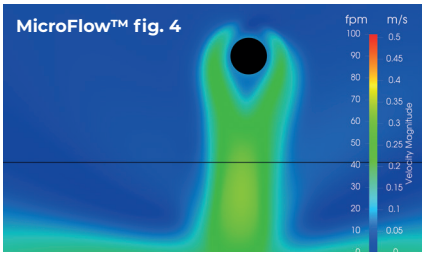
Air discharge through MicroFlow™ of permeability 200 m³/h/m² [10 CFM/ft²] at 120 Pa [0.48 inwg]. Isothermal conditions.



Air permeability 200 m³/h/m² [10 CFM/ft²] at 120 Pa [0.48 inwg], cooling with ΔT of -1 K [-1.8°F]. High level of comfort is achieved.



Air permeability 200 m³/h/m² [10 CFM/ft²] at 120 Pa [0.48 inwg], cooling with ΔT of -3 K [-5.4°F]. Increased cooling capacity and draft still avoided.



Air permeability 200 m³/h/m² [10 CFM/ft²] at 120 Pa [0.48 inwg], cooling with ΔT of -5 K [-9.0°F]. Micro-perforation enables a higher cooling capacity while keeping the occupied zone draft-free.