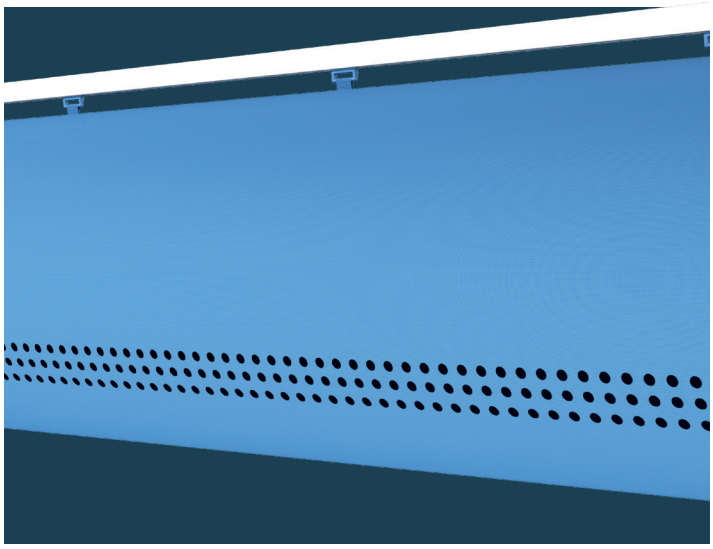
SonicFlow™

SonicFlow™ is a directional flow model where the air exits the duct via rows of laser-cut perforations.

Multiple rows of SonicFlow™ can be specified for a duct, with each row or number of rows pointing in a specific direction.

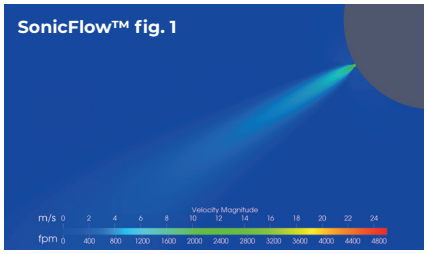
The throw depends on the static pressure inside the duct, the size of the orifices and the spacing of the orifices.

There are many different applications in which SonicFlow™ is ideal as the primary flow model. It is often used in retail or sports applications, where a medium ceiling height calls for directional throws to create proper induction without causing drafts.

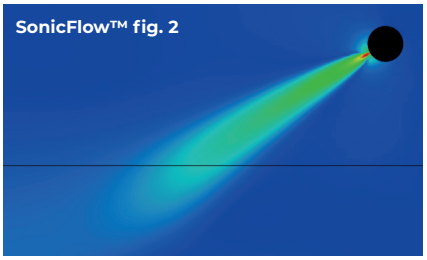


With SonicFlow™, the air exits at discharge velocity, which decreases with traveled distance from the duct and depends on the static pressure inside the duct. Fig. 2 shows an example of a CFD simulation with SonicFlow™ at 3 m [≈10 ft] above floor level. The occupied zone is indicated by the black line 1.8 m [≈6 ft] above floor level. Figs. 3 and 4 show the differences in airflow patterns between cooling and heating in scenarios with identical parameters.

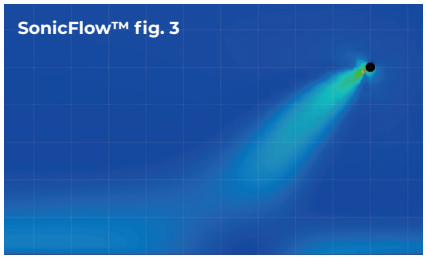
ΔT impact on air pattern



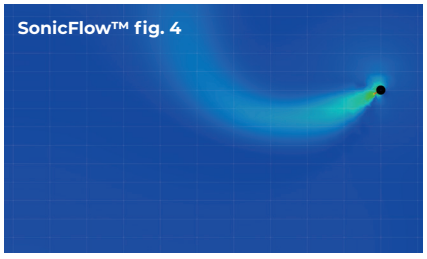
Air discharge through SonicFlow™ orifice at 120 Pa [0.48 inwg].



Example of Typical Application: Cooling at 3 m [≈10 ft], ΔT of -4 K [-7.2°F] and 120 Pa [0.48 inwg] static pressure. Air enters the occupied zone at required direction and velocity. The occupied zone is indicated by the black line 1.8 m [≈6 ft] above floor level.



Air pattern in theoretical space: Impact of cooling at ΔT of -6 K [-10.8°F] and 120 Pa [0.48 inwg] static pressure.



Example: Air pattern in heating with ΔT of +6 K [+10.8°F] and 120 Pa [0.48 inwg] static pressure in a theoretical medium to large space.