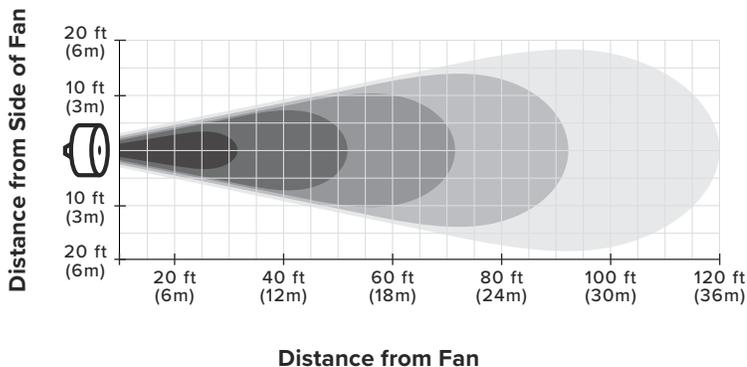
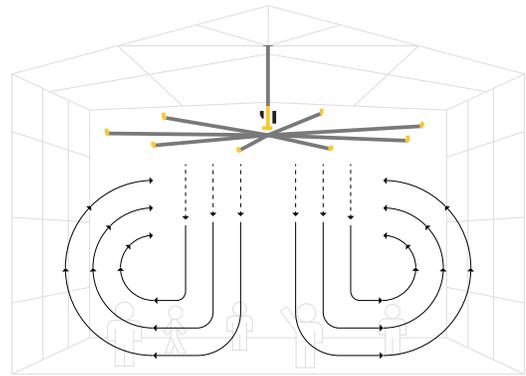


AIR QUALITY IN THE WORKPLACE

HOW BIG ASS FANS AFFECT EVERYDAY WORKING CONDITIONS IN YOUR SPACE

1. How does an overhead Big Ass fan affect airflow?

Using an overhead Big Ass fan's bi-directional airflow and elevated air speed is an incredibly powerful way to keep workers and guests comfortable in your space. Immediately underneath a Big Ass fan, airflow is pushed downward. Outside its diameter, the airflow transitions to horizontal air movement, providing comfortable airflow over a large area per ASHRAE Standard 55's thermal comfort calculations.



2. How does a directional Big Ass fan affect airflow?

Big Ass directional fans create a one-way airflow pattern that moves air to the area in front of the fan. Directional fans are most often used to cool workers in congested areas where overhead fans cannot be safely mounted. Additionally, most Big Ass directional fans feature variable speed control, allowing users to adjust airflow to provide the optimal desired cooling effect.

3. How can I use Big Ass fans to improve ventilation within my space?

Fresh air is not typically distributed uniformly throughout a space. For example, one of the most common air distribution configurations for HVAC systems is an overhead supply with overhead return. In common heating applications, this ceiling configuration can cause significant stratification of heated supply air and room air layers that prevents fresh air from circulating to occupant level. To compensate, ASHRAE 62.1 requires ventilation rates be increased by 20% to deliver the necessary amount of fresh air to the room's occupants.

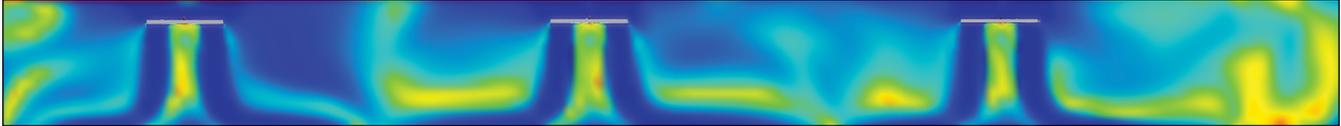
In a room that has been destratified by a Big Ass overhead fan, however, the air layers are well mixed so that the supplied fresh air can reach occupant level.

In naturally ventilated spaces, fresh air is passively distributed throughout the space, so localized areas may have stagnant pockets that result in poor air quality and the buildup of pollutants. Overhead fans can be used to evenly distribute fresh air to all occupants in the space.



4. How much will increased air movement improve ventilation in my space?

Big Ass Fans' CFD analysis of the industrial space below shows the measurable benefits offered by a Big Ass overhead fan.



Warehouse is approximately 699 ft x 378 ft (213 m x 115 m) with a ceiling height of 40 ft (12 m).

In this example, a 24-foot Powerfoil® X3.0 pushes airflow directly downward in an area of roughly 500 square feet. Horizontally, the fan is able to push airflow over a dramatically larger area (depending on mounting height, floor level obstructions, fan model, etc.). For a custom CFD simulation of improved airflow for your space, please consult a Big Ass Fans sales associate.

5. How should I operate my fans during public health events such as flu season?

There are many variables at play within each unique facility and application. Without data and intensive study for each case, it is inconclusive whether elevated air speed has a significant health impact for a facility.

Big Ass Fans values customer safety and well-being above all else and encourages following best practices outlined by the CDC and WHO in addition to adhering to building design standards and practices set forth by ASHRAE.

Ventilation can reduce the concentration of airborne pathogens through dilution. Increased ventilation rates (outdoor air intake) can provide a higher dilution capability and consequently potentially reduce the risk of infection. As such, Big Ass Fans generally recommends the following:

- All facilities should meet or exceed the latest practice standards, including but not limited to ASHRAE Standard 62.X for ventilation and ASHRAE Standard 55 for thermal comfort conditions.
- In naturally ventilated spaces, maximize the intake of dilution ventilation (outdoor air) whenever possible and distribute to all building occupants.
- Practice good respiratory hygiene. Occupants should cough or sneeze into an elbow or tissue and practice regular handwashing.
- Clean and disinfect frequently touched objects and surfaces such as workstations, keyboards, telephones, handrails, and doorknobs.

For more information on this topic, please visit:

Centers for Disease Control
and Prevention (CDC)
cdc.gov

The American Society of Heating, Refrigerating
and Air-Conditioning Engineers (ASHRAE)
ashrae.org

World Health
Organization (WHO)
who.int



BIG ASS FANS

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