

Behind Every Great Air Flow Reading is a Great Wind Tunnel

LIVONIA, MICHIGAN, UNITED STATES, November 2, 2022 /EINPresswire.com/ -- Airflow Sciences Corporation, a fluid dynamics engineering company, is on a mission to improve the accuracy of flow measurement in the industrial sector. As experts in all things flow-related, this group of engineers says that it all starts with a state-of-the-art wind tunnel.

Wind tunnels are popularly known for their use in aerodynamics studies, but they also are the backbone of an entire field of flow measurement instrumentation. For any device that measures fluid flow, it's likely that a [wind tunnel was used to calibrate it](#).

This includes common flow devices such as anemometers and pitot tubes, but also unique industrial probes such as dirty air and prism or spherical probes.

In the flow lab at Airflow Sciences, a precision wind tunnel overlooks the room below, where a myriad of real-world flow experiments are being conducted. In the next room over, skilled technicians fabricate the custom test probes that serve today's industry giants like power plants, refineries, and food processors. After fabrication, each probe moves upstairs to the meticulously designed wind tunnel, where NIST-traceable standards ensure that it is calibrated with pinpoint accuracy.

As a designer and manufacturer of custom probes, the company has intricate knowledge of what goes into probe calibration, which is why they designed and built their own in-house wind tunnel in 1992. The tunnel features a large test section of 17" x 34" and boasts an extremely flat velocity profile throughout the test section. With a carefully designed inlet, the wind tunnel has less than 1% turbulence, ensuring that the data collected from calibration tests are both reliable and repeatable. An innovative data collection system accompanies the tunnel design to automate the



Probe calibration in progress using the wind tunnel at Airflow Sciences' flow lab in Livonia, MI.

measurement process as much as possible and eliminate human interference.

A state-of-the-art tunnel construction is just one factor in the calibration process. What makes the Airflow Sciences tunnel superior is the technical expertise of the personnel who operate it and perform calibrations. From test setup, to data collection, to reporting results, the Airflow Sciences team takes pride in 30 years of in-house probe calibrations and has offered innovative contributions to the field of flow measurement since 1975.

The onsite wind tunnel in Airflow's lab exceeds the Environmental Protection Agency's standards in accordance with Method 2 for the calibration of velocity probes. It is capable of calibrating a broad range of probes and other measurement devices:

- Vane anemometer
- Hot wire anemometer
- S-type pitot probes
- Dirty air probes
- Fechheimer probes
- 2D wedge probes
- 3D prism-head probes
- 3D spherical-head probes
- Non-nulling hemispherical probes
- Particulate sampling probe (EPA Methods 5, 17, 201a, 202, etc.)

Flow measurement devices are only as accurate as the wind tunnel used to calibrate them. To learn more about probe calibration services, visit the [Airflow Sciences website](#), or [watch a tour of the wind tunnel here](#).

About Airflow Sciences Corporation

Airflow Sciences Corporation is a fluid dynamics solutions company. They specialize in the design and optimization of equipment and processes involving flow, heat transfer, combustion, and mass transfer. Since 1975, the company has focused on testing and simulation of air, gas, liquid, or particulate flows. They also manufacture standard and custom test equipment, including probes and wind tunnels, so our customers can collect data accurately and efficiently. Our primary CFD software, Azore®, is also available for those customers with in-house CFD personnel. ASC offers comprehensive flow solutions and optimization, and serves a wide range of industries including HVAC, power, auto, rail, and food processing.

Contact

For more information on probe calibration services or to learn how to achieve higher levels of accuracy in flow measurement, contact Matt Gentry.

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