Tracer Gas Airflow Measurement System with High Turndown Ratio

Tech ID: 24213 / UC Case 2014-775-0

ABSTRACT

Traditional designs for tracer gas airflow measurement systems are cumbersome, can only be used in certain circumstances, and are limited to measuring a relatively narrow band of airflow rates. Researchers at the University of California, Davis have developed a novel method for measuring tracer gas airflow in a number of scenarios with varied bands of airflow rates.

FULL DESCRIPTION

Current methods to measure airflow rates in duct systems require careful use and substantial time to produce accurate measurements. Traditional measurement systems use anemometers to measure velocities at several locations in a cross section of an airstream. However, because of the limited detection limits of anemometers, it is very difficult to accurately measure airflow rates when there are large spatial variations in air velocities. This also limits the number of applications for which a particular instrument can be used.

Researchers at the University of California, Davis have developed a unique method to accurately measure tracer gas airflow. This method, unlike others, has been shown to have applications in a wide range of flowrates (50 cfm- 30,000cfm) and in a variety of scenarios. Furthermore, the device allows for a high throughput easily adjustable air flow CO_2 based calibration system.

APPLICATIONS

- Airflow Measurement In Any Scenario

FEATURES/BENEFITS

- Wide range of use
- Greater accuracy
- Easy to use
- High throughput easily adjustable airflow calibration system

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	10,295,432	05/21/2019	2014-775

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Self-Calibrating Automatic Controller To Determine The End Of Cycle In Clothes Dryers

CONTACT

Michael M. Mueller
mmmueller@ucdavis.edu
tel: .

INVENTORS

- Mande, Caton W.
- Modera, Mark P.
- Woolley, Jonathan M.

OTHER INFORMATION

KEYWORDS

Airflow Measurement, CFM, Sensor

CATEGORIZED AS

- **Engineering**
  - Engineering
  - Other
- **Sensors & Instrumentation**
  - Physical Measurement

RELATED CASES

2014-775-0

University of California, Davis

Technology Transfer Office

1 Shields Avenue, Mrak Hall 4th Floor,

Davis,CA 95616

Tel:

530.754.8649

techtransfer@ucdavis.edu

https://research.ucdavis.edu/technology-transfer/

Fax:

530.754.7620