

Institute of Environmental Sciences and Technology

IENT-RP-CC036.1

Contamination Control Division
Recommended Practice 036.1

Testing Fan Filter Units



2340 S. Arlington Heights Road, Suite 620
Arlington Heights, IL 60005-4510
Phone: (847) 981-0100 • Fax: (847) 981-4130
E-mail: information@iest.org • Web: www.iest.org

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1 SCOPE AND LIMITATIONS

1.1 Scope

This Recommended Practice (RP) covers laboratory methods for testing the performance of a fan filter unit (FFU). The purpose of this RP is to provide customers and suppliers of FFUs the necessary test protocols for measuring and reporting performance, excluding filter efficiency. These methods provide the means for direct comparison of units provided by different manufacturers, which may be of varying designs and have different operating features.

The test methods identify test equipment and testing procedures necessary to measure volumetric airflow, electric power parameters (wattage, amperage, voltage, and power factor), available external static pressure, sound power levels, and filter airflow velocity uniformity.

These procedures are applicable for FFUs with AC motors, with DC brushless motors, with constant airflow control, and without constant airflow control.

1.2 Limitations

This RP does not provide guidance for field testing, although some of the techniques described herein can be applied to field testing. This RP does not recommend acceptance performance values or limits for FFUs.

Codes and standards may be applicable to the construction and performance of FFUs. These codes and standards should be made part of the agreement between the customer and supplier.

The procedures described in this RP are applicable to FFUs with filter dimensions equal to or less than 1.2 m (4 ft) in any direction.

Testing for fan filter housing vibration is an important performance parameter for FFUs used in selected arrangements and installations. This parameter is not part of the testing criteria covered in this RP.

This RP does not discuss filtration efficiency or filter performance. These parameters are discussed in IEST-RP-CC001, IEST-RP-CC007, and IEST-RP-CC021.

2 REFERENCES

The cited editions of the following documents are incorporated into this RP to the extent specified herein. Users are encouraged to investigate the possibility of applying the most recent editions of the references.

2.1 Applicable documents

ANSI/AMCA 210-07 (ANSI/ASHRAE 51-2007) Laboratory Methods of Testing Fans for Aerodynamic Performance Rating

ANSI/AMCA 300-08 Reverberant Room Method for Sound Testing of Fans