# INSTITUTE OF ENVIRONMENTAL SCIENCES AND TECHNOLOGY

## Contamination Control Division Recommended Practice 002.3

# IEST-RP-CC002.3

# Unidirectional-Flow, Clean-Air Devices

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This Recommended Practice was prepared by and is under the jurisdiction of Working Group 002 of the IEST Contamination Control Division.



Second printing, July 2017

ISBN 978-0-9787868-5-4

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# Unidirectional-Flow, Clean-Air Devices
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## 1 SCOPE AND LIMITATIONS

### 1.1 Scope

This Recommended Practice (RP) covers definitions, procedures for evaluating performance, and major requirements of unidirectional-flow, clean-air devices. The RP may be used to define a basis of agreement between customer and supplier in the specification, procurement, and certification testing of unidirectional-flow, clean-air devices with self-contained motor-blower(s) and powered terminal units with replaceable filter. This document also presents recommendations for recertification of devices owned by the customer, under direction of the customer.

### 1.2 Limitations

This RP does not cover cleanrooms or specialized minienvironments. The RP does not cover biological safety or containment cabinets in their entirety, but covers only certain cleanliness characteristics of these cabinets. The RP does not specify acceptance limits, but provides standard terminology for specifying appropriate limits. This RP recommends ranges of acceptance limits where applicable.

**NOTE:** Where applicable, codes and standards may be applied to the construction and performance of clean-air devices. These codes and standards should be made a part of the agreement between the customer and the supplier.

## 2 REFERENCES

### 2.1 Reference documents

The following documents are incorporated into this RP to the extent specified herein. Users should apply the most recent editions of the references.

*ACGIH: Industrial Ventilation: A Manual of Recommended Practice*

*ACGIH: TLVs® and BEIs®*

*AMCA Publication 99: Standards Handbook*

*AMCA Publication 211: Certified Ratings Program – Product Rating Manual for Fan Air Performance*

*ANSI/AIHA Z9.5-2003 Laboratory Ventilation*

*ANSI/AIHA Z9.7-2007 Recirculation of Air from Industrial Process Exhaust Systems*

*ANSI/IESNA RP-7-01: Lighting Industrial Facilities*

*ANSI/IESNA RP-29-06: Lighting for Hospitals and Health Care Facilities*

*ASHRAE Standard 52.1: Gravimetric and Dust-Spot Procedures for Testing Air-Cleaning Devices Used in General Ventilation for Removing Particulate Matter*

*ASTM E595: Standard Test Method for Total Mass Loss and Collected Volatile Condensable Materials from Outgassing in a Vacuum Environment*

*ASTM E84: Standard Test Method for Surface Burning Characteristics of Building Materials*

*IAPMO/ANSI Uniform Plumbing Code*

*ICC: International Building Code*

*IEST-RP-CC001: HEPA and ULPA Filters*

*IEST-RP-CC006: Testing Cleanrooms*

*IEST-RP-CC007: Testing ULPA Filters*

*IEST-RP-CC034: HEPA and ULPA Filter Leak Tests*

*ISO 14644-1 Cleanrooms and associated controlled environments—Part 1: Classification of air cleanliness*

*ISO 14644-3 Cleanrooms and associated controlled environments—Part 3: Test methods*