

Institute of Environmental Sciences and Technology

IEST-RP-CC044.1

Contamination Control Division
Recommended Practice 044.1

**Vacuum Cleaning Systems for
Use in Cleanrooms and Other
Controlled Environments**



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1 SCOPE AND LIMITATIONS

1.1 Scope

This Recommended Practice (RP) addresses design, usage, maintenance, and testing considerations related to vacuum cleaning systems designed for use in cleanrooms and other controlled environments. The purpose of the RP is to provide a basis for potential users to properly select and specify units for their contamination control applications. This RP also discusses a variety of parameters that users should consider when specifying a vacuum cleaning system for their particular applications. This RP concentrates on portable vacuum cleaning systems but also discusses considerations for built-in vacuum systems. References to *cleanroom* in this document can also be regarded as applicable to *controlled environments*, in which similar requirements may apply.

1.2 Limitations

This RP does not provide specific ratings or methods for determining the suitability of cleanroom vacuum cleaning systems for any particular cleanroom classification according to *ISO 14644-1:2015 Classifications* of air cleanliness. Although such specifications are not covered, suitability is discussed.

The use of vacuum cleaners in nanoscale applications has yet to be proven safe or effective. This RP neither endorses nor recommends the use of vacuum cleaners in nanoscale applications.

CAUTION: Use of this RP is voluntary. Although safety is of utmost concern, it is beyond the scope of this RP to cover all of the potential safety issues associated with vacuum systems and applications using these systems. It is the responsibility of the user to identify risks, to establish appropriate safety and health practices, and to determine the applicability of regulatory limitations prior to use of this RP. This RP does not provide specific safety requirements related to practices or procedures. Relevant safety standards and national and local regulations must be consulted.

2 REFERENCES

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

2.1 Reference documents

EN 1822-1 High efficiency air filters (EPA, HEPA and ULPA) Part 1: Classification, performance testing, marking

IEST-RP-CC001: HEPA and ULPA Filters

IEST-RP-CC002: Unidirectional-Flow, Clean Air Devices