



**BSR/ASHRAE Addendum e to  
ANSI/ASHRAE Standard 154-2016**

**Public Review Draft**

# **Proposed Addendum e to Standard 154-2016, Ventilation for Commercial Cooking Operations**

**First Public Review (May 2020)  
(Draft shows Proposed Changes to Current Standard)**

This draft has been recommended for public review by the responsible project committee. To submit a comment on this proposed standard, go to the ASHRAE website at [www.ashrae.org/standards-research-technology/public-review-drafts](http://www.ashrae.org/standards-research-technology/public-review-drafts) and access the online comment database. The draft is subject to modification until it is approved for publication by the Board of Directors and ANSI. Until this time, the current edition of the standard (as modified by any published addenda on the ASHRAE website) remains in effect. The current edition of any standard may be purchased from the ASHRAE Online Store at [www.ashrae.org/bookstore](http://www.ashrae.org/bookstore) or by calling 404-636-8400 or 1-800-727-4723 (for orders in the U.S. or Canada).

This standard is under continuous maintenance. To propose a change to the current standard, use the change submittal form available on the ASHRAE website, [www.ashrae.org](http://www.ashrae.org).

The appearance of any technical data or editorial material in this public review document does not constitute endorsement, warranty, or guaranty by ASHARE of any product, service, process, procedure, or design, and ASHRAE expressly disclaims such.

©2020 ASHRAE. This draft is covered under ASHRAE copyright. Permission to reproduce or redistribute all or any part of this document must be obtained from the ASHRAE Manager of Standards, 1791 Tullie Circle, NE, Atlanta, GA 30329. Phone: 404-636-8400, Ext. 1125. Fax: 404-321-5478. E-mail: [standards.section@ashrae.org](mailto:standards.section@ashrae.org).

**ASHRAE, 1791 Tullie Circle, NE, Atlanta GA 30329-2305**

(This foreword is not part of this standard. It is merely informative and does not contain requirements necessary for conformance to the standard. It has not been processed according to the ANSI requirements for a standard and may contain material that has not been subject to public review or a consensus process. Unresolved objectors on informative material are not offered the right to appeal at ASHRAE or ANSI.)

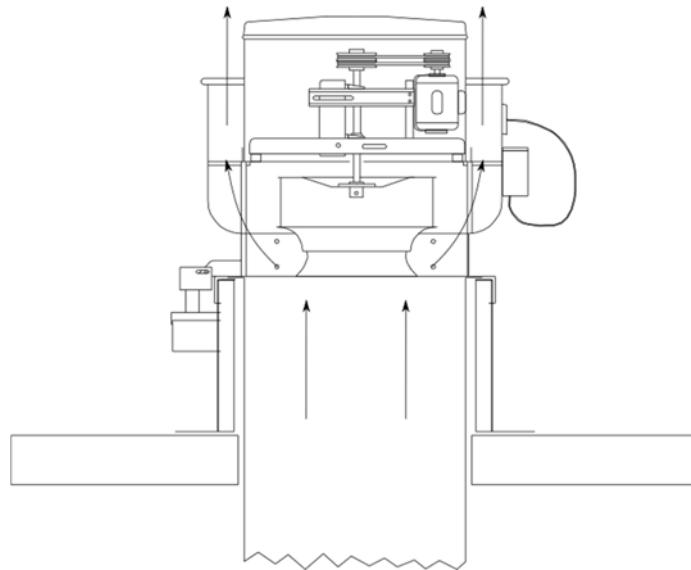
## FOREWORD

*This addendum adds new Appendix E; previous Appendix E becomes Appendix G because Addendum A becomes Appendix F. Appendix E is informative describing the different types of exhaust fans used to ventilate commercial kitchen hoods.*

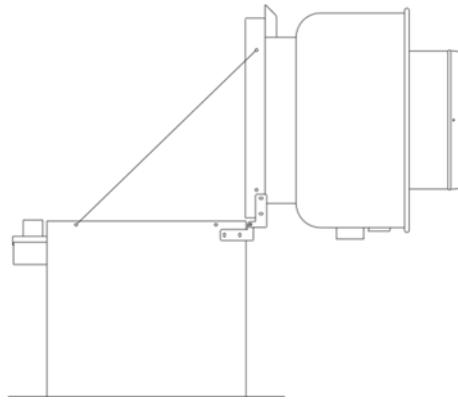
[Note to Reviewers: This addendum makes proposed changes to the current standard. These changes are indicated in the text by underlining (for additions) and ~~striketrough~~ (for deletions) except where the reviewer instructions specifically describe some other means of showing the changes. Only these changes to the current standard are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed changes.]

## INFORMATIVE APPENDIX E – EXAMPLES OF FAN TYPES USED IN TYPE 1 EXHAUST APPLICATIONS

**E1. Power Roof Ventilator (PRV).** Also known as upblast fans, PRVs are designed for mounting at the exhaust duct outlet (Figure E-1a) and discharge upward or outward from the roof or building. Aluminum upblast fans must be listed for the commercial kitchen exhaust application in compliance with UL 762, *Outline of Investigation for Power Roof Ventilators for Restaurant Exhaust Applications*<sup>16</sup> and must include a grease drain, grease collection device, and integral hinge kit to permit access for duct cleaning.

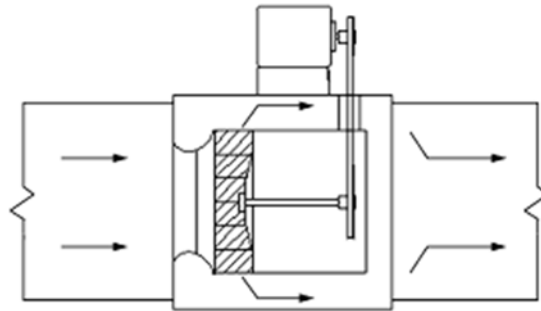


**Figure. E-1a** Power Roof Ventilator (Up-Blast Fan)



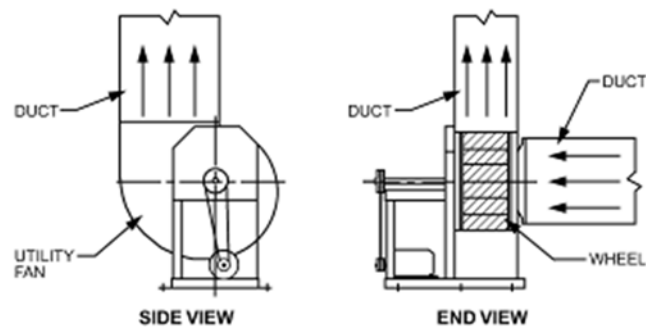
**Figure. E-1b** Hinged Power Roof Ventilator (Up-Blast Fan)

**E2. Tubular Centrifugal.** These fans, also known as inline fans, have the impeller mounted in a cylindrical housing discharging the gas in an axial direction (Figure E-2). Where approved, these fans can be located in the duct inside a building if exterior fan mounting is not practical for wall or roof exhaust. They are always constructed of steel. The gasketed flange mounting must be grease tight yet removable for service. The lowest part of the fan must drain to an approved container. When listed in accordance with *UL Standard 762*, a grease drain, grease collection device, and blower housing access panel are required.



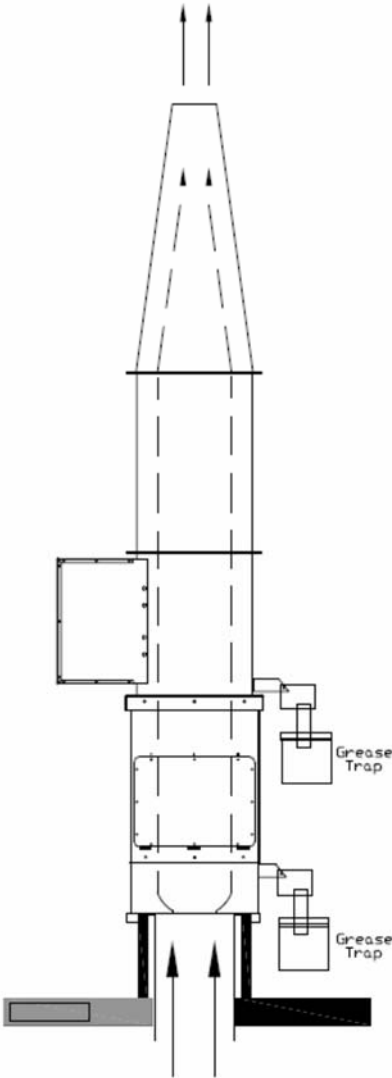
**Figure. E-2** Tubular Centrifugal (Inline) Fan

**E3. Centrifugal Fan.** Also known as a utility set, this is an AMCA Arrangement 10 centrifugal fan, including a field-rotatable blower housing, blower wheel with motor, drive, and often a motor/ drive weather cover (Figure E-3). These fans are typically constructed of steel and roof-mounted. Where approved, centrifugal fans can be mounted indoors and ducted to discharge outside. The inlet and outlet are at 90° to each other (single width, single inlet), and the outlet can usually be rotated to discharge at different angles around a vertical circle. The lowest part of the fan must drain to an approved container. These exhaust fans will be provided with access panels for inspection and cleaning. When listed in accordance with *UL Standard 762*, a grease drain, grease collection device, and blower housing access panel are required.



**Figure. E-3** Centrifugal Fan (Utility Set)

**E4. High Plume Fan.** These fans may be used for kitchen applications when the requirements for a high exhaust plume are required (Figure E-4). These fans generate a high nozzle exit velocity, which forces the exhaust plume to higher elevations and thus discharges smoke and grease laden vapors into the atmosphere. This is applicable when the intent is to prevent re-entrainment of the smoke and grease laden kitchen exhaust into the building make-up air system, or to discharge it over neighboring buildings or structures. When listed in accordance with *UL Standard 762*, a grease drain, grease collection device, and blower housing access panel are required. Due to the size and weight of these fans, the installation should be verified for structural integrity by a structural engineer. Items to be evaluated may include roof load, wind load, and seismic conditions.



**Figure. E-4 High Plume Fan**