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ASHRAE Laboratory Design Guide, 2nd Ed.

Laboratory Design Handbook LABORATORY VENTILATION . The key concept of laboratory ventilation is that air entering the laboratory must exit the laboratory. The inflowing air volume, normally composed of supply air and infiltration, will exactly equal the outgoing air volume, or air exhausted through room exhaust, fume hoods,

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Laboratory Design Guidelines 2013 Design Guidelines 6 | Page vi. Chemical/Waste Storage Chemical storage shelves shall not be placed above laboratory sinks. Chemical storage shelves shall be flush to a back wall and shall have a ½ inch lip along the front edge.

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laboratory can be attributed to ventilation, and reducing a laboratory's ventilation needs can lower the cost to build and maintain a facility (see Figure 1).

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Lab Ventilation ACH Rates Standards and Guidelines January 3, 2012 White Paper Series Page 2 1.0 Introduction This document provides an overview of current US and European design practices, standards, and

Laboratory Ventilation ACH Rates Standards and Guidelines

States the Design Guide has the distinct purpose of providing designers with the required tools to properly design and integrate laboratory mechanical systems into their complete building HVAC&R projects. Outlines the key steps of the design process that are presented in the Guide.

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Design and balance systems so that lab rooms are slightly negative with respect to corridors and surrounding rooms Maximize the percentage of fresh air provided. Labs must be on 100% exhaust systems (no recirculation/re-use of lab exhaust) Design target is 8 - 10 room air changes per hour for occupied rooms, and 4 - 6 per hour for

Guidelines for Safe Laboratory Design

Guideline ASHRAE Laboratory Design Guide, 2002 Suggestions given for: Minimum supply air changes Minimum exhaust air changes Minimum outdoor air changes Recirculation considerations 4-12 ACH Guideline PG&E Energy Efficiency Baselines for Laboratories, October 1, 2010 (revised annually) Baseline Air Changes / Hour for Ventilation: General Lab ...

High Performance Laboratories - Energy Design Resources

Laboratory Ventilation Design Levels Developed by ASHRAE Technical Committee 9.10, Laboratory Systems

Laboratory Classification Subcommittee In partnership with American Chemical Society Division of Chemical Health and Safety and American Industrial Hygiene Association Laboratory Health and Safety Committee Atlanta

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mon laboratory equipment information is listed in the appendix of the ASHRAE Laboratory Design Guide (Dorgan et al. 2002). Data on heat release from animals that may be housed in the space can be found in Chapter 10 of the 2005 ASHRAE Handbook Fundamentals and in Alereza and Breen (1984).

I-P A07 Ch14 - ThermAir System

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Designing laboratory ventilation systems Learning objectives

- Understand the codes and standards that guide laboratory ventilation design.
- Learn how to design laboratory ventilation systems to meet system requirements.
- Understand key equipment functions.

Designing laboratory ventilation systems - SSR

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Research Series: Research Laboratory Design Guide

vast array of laboratory uses, no single recommendation is necessarily appropriate for every laboratory. The list of recommendations given in this guide, however, is meant to be broad enough so that they will be appropriate for considering under any particular laboratory design. This document is intended to provide guidance

High Performance Laboratories - Pacific Gas and Electric

ASHRAE (2013) HVAC Design Manual for Hospital and Clinics, 2

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Laboratory Exhaust Systems Vektor-H The Greenheck Vektor Advantage The Greenheck Vektor-H laboratory exhaust system is a better, lower cost alternative to a field built-up ... * = hFrom ASHRAE Laboratory Design Guide, Equation 9-2 $h_s + h_r$ Note: Graphical comparison of Vektor to low velocity, traditional stack. 3. 4

Laboratory Exhaust Systems - Air Movement and Control

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ASHRAE Laboratory Design Guide Table 3-10: Fault Tree Analysis Symbols Symbol Name Type Brief Description The “AND” gate represents a condition in which all of the input events (shown below the AND Logic Gate gate) are present for the output event (shown above the gate) to occur.

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