

Industrial Ventilation

1.2 CEUs / 12 PDHs

Description

For increased productivity, industries must provide a workplace free of hazardous airborne contaminants. Plant and process engineers need familiarity with ventilation design to control potentially toxic gases, vapours and other contaminants. The changes in processes stemming from the need for new products require changes to be made to the ventilation system, increasing its complexity. This seminar is designed to provide competency in industrial ventilation design, dust control, fume control, mist control, and specialized ventilation techniques. Case studies of actual applications are presented.

Objective

To help participants acquire knowledge about the state-of-the-art in industrial ventilation design and troubleshooting.

Who Should Attend

Manufacturing, plant, process, design and maintenance engineers; environmental, maintenance, facility and production managers; chemical engineers, industrial hygienists, and occupational health and safety engineers will also benefit from this seminar.

Program Outline

Instructor: Dr. Oleg Kenchin, IVT Engineering

Day I

8:30 Registration And Coffee

8:50 Welcome And Introduction

9:00 Industrial Ventilation Design - An Overview

- Fundamentals
- Design parameters and applications
- Dilution ventilation for health, fire and explosion
- Ventilation for heat control
- Local air pollution control systems
- Application for certificate of approval for emissions

10:30 Refreshments And Networking

11:00 General Ventilation Systems Design

- Basic performance parameters
- Design procedures
- Construction guidelines for ventilation systems
- Case study

12:30 Lunch

1:30 Local Exhaust-Hood Design

- Basic performance parameters
- Design procedures
- Construction guidelines for local exhaust systems
- Case study

3:00 Refreshments And Networking

3:30 Exhaust System Design

- Ductwork sizing and design velocity: principles of airflow
- Design procedures
- Balancing of exhaust systems

5:00 Adjournment

Day II

8:30 Selection Of Equipment (General Ventilation)

- Air makeup units
- Filtration classification and selection of filters
- Comfort conditions and makeup air thermal requirements
- Elements of fans and selection of fans

10:00 Refreshments And Networking

10:30 Selection Of Equipment (Local Ventilation)

- Air cleaning devices
- Selection of air cleaning devices
- Selection of filtration media
- Selection of fans

12:00 Lunch

1:00 Ventilation System Testing Equipment

- Characteristics of testing equipment
- Testing and evaluation procedures

2:00 Stretch Break

2:10 Workshop

- Hands-on equipment selection and testing example

2:55 Refreshments And Networking

3:15 Case Study

4:00 Open Forum - Questions And Answers

4:30 Concluding Remarks And Final Adjournment

After participating in this course, you will be able to:
learn techniques to improve your approach to troubleshooting, enabling you to pinpoint changed conditions in the system
determine ventilation needs
recognize wasteful faults in existing systems
design an efficient collecting hood for dusts and chemicals
calculate optimal duct sizes for balanced system distribution, minimal setting, and least static pressure drop
calculate the parameters for determining the most appropriate fan size
select the right type of collector for contaminants
increase your ability to design, purchase, implement or maintain an effective industrial ventilation system
expand your troubleshooting and redesign skills

Special Features

Intensive and interactive two-day format, focused and carefully targeted to meet the needs of adult learners. Seminar leader is a practitioner with hands-on experience. This seminar will enable participants to take specific ideas and implement them as soon as they return to their organization.

Instructor

Oleg Kenchin, PhD, P.Eng., Senior Consultant, Mechanical Engineering has over 25 years experience as a Mechanical Engineer. During his career, Dr. Kenchin has been primarily involved in research and development, designing, installations, evaluation, troubleshooting and commissioning of all types of industrial, commercial and institutional HVAC and Air Pollution Control systems and equipment. Additionally, he has been a lecturer at Engineering Professional Advancement Courses teaching several mechanical engineering subjects. Three patents, over eighteen books and articles have been published by Dr. Kenchin in the technical literature in Europe and North America.