



*Training Course:
Flow of Solids – Pneumatic*

14 - 18 September 2025

Cairo (Egypt)

Holiday Inn & Suites Cairo Maadi, an IHG Hotel

Training Course: Flow of Solids □ Pneumatic

Training Course code: EN235484 From: 14 - 18 September 2025 Venue: Cairo (Egypt) - Holiday Inn & Suites Cairo Maadi, an IHG Hotel Training Course Fees: 4200 □ Euro

Introduction

The efficient handling and transportation of solid materials are critical components in numerous industries, including chemical processing, pharmaceuticals, food production, and mining. Pneumatic conveying systems have emerged as a versatile and effective method for transporting bulk solids through pipelines using airflow. These systems offer several advantages, such as reducing material degradation, minimizing contamination, and ensuring consistent flow rates.

However, the design, operation, and maintenance of pneumatic conveying systems require specialized knowledge due to the complex interactions between solids and gases. This training program, "Flow of Solids - Pneumatic," is meticulously crafted to provide participants with a comprehensive understanding of pneumatic conveying technology. The course will cover the fundamental principles of solids flow, the different types of pneumatic conveying systems, the selection and sizing of equipment, and troubleshooting techniques to optimize system performance.

Throughout this five-day program, participants will engage in theoretical discussions, practical examples, and case studies, allowing them to grasp the intricate dynamics of solid flow in pneumatic systems. By the end of the training, attendees will be equipped with the knowledge and skills necessary to design, operate, and maintain efficient pneumatic conveying systems, ultimately enhancing productivity and safety in their respective organizations.

Objectives

- Understand the fundamental principles of solids flow in pneumatic conveying systems.
- Explore the different types of pneumatic conveying systems and their applications.
- Learn the criteria for selecting and sizing pneumatic conveying equipment.
- Develop problem-solving skills to troubleshoot and optimize pneumatic systems.
- Analyze real-world case studies to apply theoretical knowledge in practical scenarios.
- Gain insights into the maintenance and operational challenges of pneumatic conveying systems.

Organizational Impact

By investing in this training program, organizations can expect the following benefits:

- **Enhanced Productivity:** Employees will learn how to design and operate pneumatic systems that minimize downtime and maximize throughput.
- **Improved Safety:** Understanding the complexities of solid flow and system design reduces the risk of accidents and operational hazards.
- **Cost Efficiency:** Proper selection and maintenance of equipment reduce energy consumption and prevent costly system failures.
- **Competitive Advantage:** Organizations will be better equipped to handle a wide range of materials, improving overall operational flexibility and market responsiveness.
- **Innovation and Sustainability:** Employees will be empowered to implement innovative solutions that improve the sustainability and efficiency of material handling processes.

Personal Impact

Participants will gain the following personal benefits from this course:

- **Expertise Development:** Acquire in-depth knowledge of pneumatic conveying systems and solid flow mechanics.
- **Problem-Solving Skills:** Enhance your ability to troubleshoot and resolve issues in pneumatic systems, increasing your value to your organization.
- **Career Advancement:** With specialized knowledge in pneumatic conveying, you will be well-positioned for roles in process engineering, maintenance, and system design.
- **Confidence in Decision-Making:** Equip yourself with the tools and understanding necessary to make informed decisions regarding pneumatic systems.
- **Networking Opportunities:** Engage with peers and experts in the field, expanding your professional network and knowledge base.

Target Audience

This training program is designed for:

- Process Engineers involved in the design and optimization of material handling systems.
- Maintenance Engineers responsible for the upkeep and troubleshooting of pneumatic conveying systems.
- Operations Managers seeking to improve the efficiency and safety of their production processes.
- Project Engineers involved in the selection and implementation of new conveying systems.
- Technical Specialists and R&D Professionals interested in understanding the latest advancements in pneumatic conveying technology.

Day 1: Introduction to Pneumatic Conveying Systems

- Overview of pneumatic conveying and its applications.
- Types of pneumatic conveying systems: positive pressure, vacuum, and combined systems.
- Key components: blowers, pipelines, feeders, airlocks, and filters.
- Understanding the principles of solids flow and air movement.
- Factors influencing the flow of solids in pneumatic systems.

Day 2: Design and Selection of Pneumatic Conveying Systems

- Criteria for selecting the appropriate type of pneumatic system.
- Sizing and design considerations for pipelines and equipment.
- Calculations for pressure drop, velocity, and flow rates.
- Material characteristics and their impact on system design.
- Case studies on system design and selection.

Day 3: Operation and Maintenance of Pneumatic Conveying Systems

- Best practices for operating pneumatic conveying systems.
- Routine maintenance procedures to ensure system longevity.
- Common operational challenges and troubleshooting techniques.

- Safety considerations and risk management in pneumatic conveying.
- Hands-on session: Inspecting and maintaining system components.

Day 4: Optimization and Troubleshooting

- Techniques for optimizing system performance and efficiency.
- Identifying and resolving common issues in pneumatic systems.
- Advanced troubleshooting methods for complex problems.
- Case studies on system failures and successful interventions.
- Group activity: Diagnosing and solving pneumatic system problems.

Day 5: Real-World Applications and Future Trends

- Application of pneumatic conveying in different industries.
- Emerging trends and innovations in pneumatic technology.
- Sustainability in pneumatic conveying: reducing energy consumption and material waste.
- Integration of pneumatic systems with other material handling technologies.
- Final assessment and Q&A session.
- Wrap-up and distribution of certificates of completion.

Registration form on the Training Course: Flow of Solids □ Pneumatic

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