

CASE STUDY



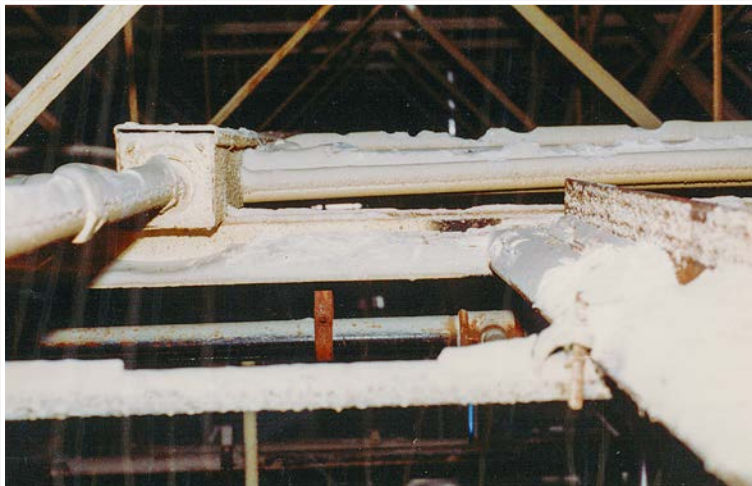
Industrial Salt Conveying System for Leading Snack Manufacturer

Customer Overview

One of the nation's leading snack manufacturers, Eagle Snacks operates a major production facility in York, Pennsylvania. Known for high-quality snack foods and innovative product lines, the company prioritizes workplace safety, process efficiency, and compliance with all regulatory standards in its operations.

SERVICES PROVIDED:

- * Custom system engineering and design
- * Pneumatic conveying system installation
- * Food safety and compliance integration
- * Hazard and flow mitigation consulting
- * Operator control system implementation
- * Structural mounting and overhead support



Salt from chip salter accumulated on overhead pipes.

Project Overview

Air Dynamics Industrial Systems Corporation was commissioned to design, engineer, and install a fully enclosed salt conveying system for the client's York facility. The goal: provide a safer, cleaner, and more efficient method of delivering salt and seasonings to multiple production lines while eliminating health and safety risks associated with airborne salt dust and system buildup.

The Challenge

The facility's existing method of distributing salt to production lines had become a serious health and safety concern. Salt was accumulating on overhead pipes, creating a combustible dust hazard and contaminating the processing environment. In addition, varying humidity levels threatened to cause clumping in the salt supply—particularly in seasonings with higher fat or buttermilk content.

Key concerns included:

- Employee exposure to airborne salt and chemical dust
- Compliance with OSHA, ACGIH, and food-grade requirements
- Risk of salt clustering due to humidity and temperature
- Explosive dust accumulation on overhead piping
- Need for operator-friendly system with individual line controls



Corrosion danger from food salting after fryer cooking.

The Solution

Air Dynamics delivered a customized salt conveying system that addressed all environmental, safety, and performance concerns:

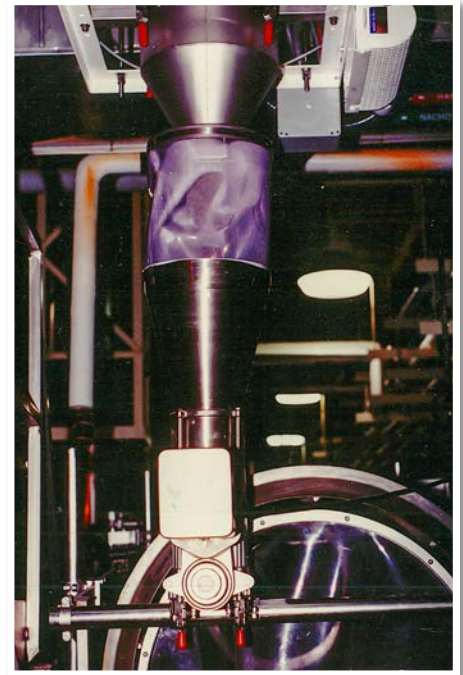
System Design: A fully enclosed pneumatic salt conveying system was engineered to move AKZO Shur-Flo Fine Flake Salt from a central bulk hopper to individual salter units across production lines.

Independent Line Control: Each production line was served by its own cyclone receiver and convey line, enabling fully independent operation.

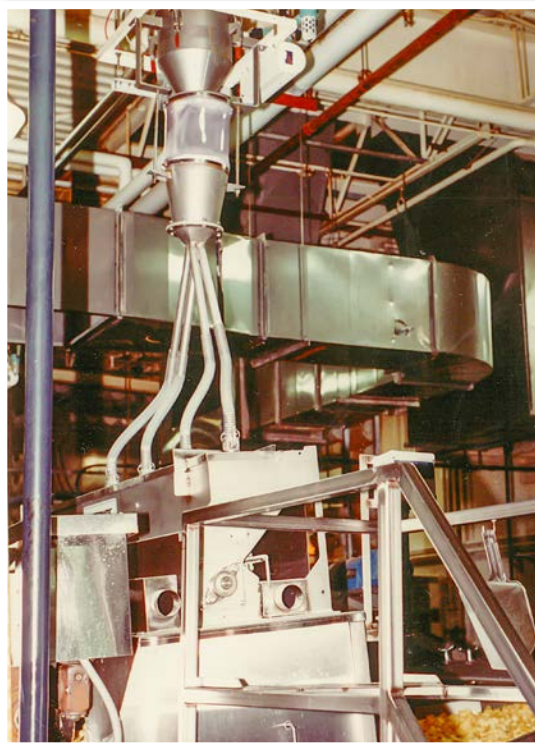
Operator-Friendly Interface: A central control panel allowed operators to manually select one to four salt discharge cycles per line. An automated system with a proximity switch was also installed on the Torit line for hands-free operation.

Material Compatibility: All product-contact components were made from 304 stainless steel, with food-grade PVC hoses used for flexible sections.

Moisture & Flow Solutions: Engineering design ensured the closed system would prevent internal condensation. Additional recommendations included using static-conductive hoses and filters and aerating the holding bin for consistent flow of sticky seasonings.



Salt applicator, totally enclosed to eliminate fugitive salt dust.



Pneumatic transfer of salt and seasoning for corn chip production.

The Results

The new salt conveying system brought immediate and measurable benefits to the customer:

Summary of Key Outcomes

- Fully food-grade compliant system built to federal and industry safety standards
- Elimination of combustible salt dust hazards
- Reduced employee exposure to airborne salts and contaminants
- Improved operator control and efficiency on production lines
- Consistent, clog-free delivery of various seasoning types regardless of humidity

Performance Highlights

- Conveying capacity: 55+ lbs/hour over 100 feet horizontal and 15 feet vertical
- Independent operation of each production line
- Automated system control on key lines with hands-free switching
- Simplified maintenance and cleaning
- Enhanced workplace safety and sanitation

Conclusion

By partnering with Air Dynamics, this leading snack manufacturer successfully modernized its salt conveying process—resulting in a safer, cleaner, and more efficient production environment. The project demonstrates how intelligent system design can eliminate environmental hazards, streamline operations, and support long-term product quality and compliance.