CASE STUDY

KONGSKILDE
www.kongskilde-industries.com

RAILCAR / CONTAMINATION / PLASTIC PELLETS

# Contamination-Free Conveying of PP and PE Pellets for Plastic Bag Producer

**A major US plastic bag manufacturer needed a contamination-free solution to transport PP and PE pellets from rail cars to high silos efficiently. The implemented system improved reliability and reduced operational costs while ensuring zero contamination.**

## THE CHALLENGE

This US-based company, a leader in the American plastic bag industry, needed a flexible and reliable conveying system to transport PP and PE pellets from rail cars.

- The setup included space for up to **five rail cars**, each with **four ports for pellet extraction**, which then needed to be blown into any of ten **31-meter high silos** within a stringent timeframe.
- The system had to **ensure zero contamination,** including moisture and foreign materials, as any contamination could lead to significant economic losses.
- Additionally, the solution had to be more **cost-effective** in terms of total ownership compared to their previous **PD pump system**.


**The TRL blower** is a high-efficiency blower, ideal for both suction and blowing systems. Its versatility makes it a perfect solution for various conveying applications across many industries.

## THE FACTS

**Material specifications:**

- **Material:** PP and PE Pellets
- **Dimensions:** Pellets max Ø 3mm, grid max Ø 1mm
- **Flow Rate:** 15-20 metric tons of pellets per hour
- **Bulk Density:** Approximately 520 kg/m³
- **Conveying Distance:** Horizontal max 31m, Vertical max 28m

**100 %**

**DECREASE**

IN RISK OF PRODUCT CONTAMINATION

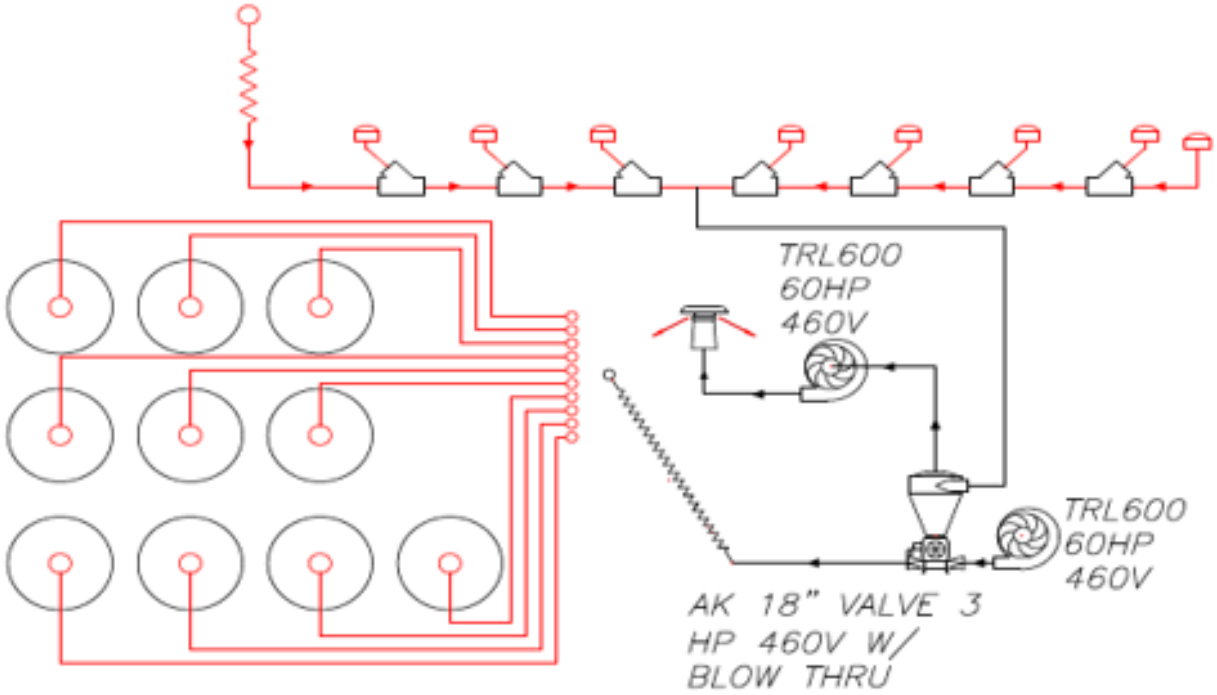
**Before the Kongskilde system was installed** the company used a PD pump system, which posed higher risks of cross-contamination, consumed more energy, and required frequent maintenance due to wear and tear.

## THE SOLUTION

The Kongskilde conveying system provided a reliable, contamination-free solution that met the operational and economic needs of a major US plastic bag producer. The system's modularity and cost-effectiveness ensure it remains a sustainable choice for future expansions and ongoing efficient operations.

The solution involved using modular standard elements to create a conveying system that efficiently transported the pellets from the rail cars into the silos without contamination. Key components included:

- **Two Kongskilde TRL 600 Blowers:** These were used to manage the distance and maintain low air temperatures, ensuring a high-performance pneumatic solution free from contamination.
- **Modular Design:** The system's flexibility and modularity allowed for easy installation and future upgrades, such as adding new pipelines when additional silos are built.
- **Cost Efficiency:** The Kongskilde system proved to be a cost-effective investment with lower operating and maintenance costs compared to previous systems.



## THE ADVANTAGES AND BENEFITS

Upon implementing the Kongskilde system, the company swiftly reaped numerous advantages and benefits.

- **High Flexibility and Modularity:** Facilitates easy installation and meets specific requirements. Future expansions, like adding new silos, are cost-effective with simple pipeline installations.
- **Contamination-Free Solution:** The high-performance system ensures safe operation without risking pellet contamination.
- **Minimized Heat Build-Up:** Using two blowers reduces heat build-up, preventing the formation of “streamers” in the pipeline.
- **Low Maintenance Costs:** The pneumatic solution’s design reduces the need for frequent maintenance, contributing to lower operational costs.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