

Liquid Product Recovery (Pigging) Case Study:

Pet food Manufacture

Canada

How HPS Pigging Technology Helped a Canadian Pet Food Manufacturer Reduce Product Losses Valued at $540,000 CAD a Year and Save 600 Litres of Water per Line

HPS Product Recovery Solutions

www.hps-pigging.com

Summary

- A global pet food manufacturer operates three dedicated meat-based production lines at its Canadian facility.
- Before pigging, **each line flushed 300–400 kg of meat product to waste** per day, resulting in around **1,750 kg of weekly product loss** and annual waste costs of **$540,000 CAD.**
- The manufacturer wanted to reduce product loss and water use, shorten changeovers, and integrate a solution with its existing automation.
- HPS designed and supplied three **automatic 3-inch pigging systems** to meet the manufacturer's process and operational requirements.
- The systems integrate with the plant controls through an HPS Functional Design Specification, enabling automated pigging with minimal operator involvement.
- Pigging now recovers product that previously went to waste, saves around **600 litres of water per line** during cleaning and changeovers, and saves up to **45 minutes per day across the production lines.**
- Based on product recovery alone, the project is expected to **deliver a 10-year ROI of around $5 million.**

About the Manufacturer

The manufacture produces premium dog and cat food using high-quality animal ingredients. Its products are sold in more than 90 countries.



Project Background

The manufacturer's Canadian facility produces premium meat-based dog and cat food on three dedicated production lines.

Each line transfers fresh meat products from surge bin pumps through flowmeters and into extruder preconditioners via 3-inch stainless-steel pipelines.

At the end of each batch or product run, the pipelines remain full of unused meat product. To prevent cross-contamination, the lines were flushed with water, sending between **300 and 400 kg of valuable meat product to waste per line per day**, around **1,750 kg per week.**

This resulted in significant product loss, with an **annual waste cost of approximately CAD $540,000 across the three lines.** Flushing also increased water consumption, wastewater load and changeover times, reducing overall plant efficiency.

To address these challenges, the manufacturer partnered with HPS to install three fully automatic 3-inch pigging systems. The systems were specifically designed to recover residual meat product, reduce water use, and streamline changeovers and cleaning.

Project Objectives

- **Reduce meat product loss caused by flushing and increase product recovery.**
- **Decrease water consumption by reducing the volume needed to clear the pipelines.**
- **Reduce wastewater load and treatment costs associated with meat-rich effluent.**
- **Shorten changeover and flushing times to increase production capacity and reduce downtime.**
- **Improve plant efficiency, sustainability and yield through product recovery.**

Why the Pet Food Manufacturer Chose HPS

HPS worked with the manufacturer to understand its production challenges and define its objectives. HPS System Design Manager Gary Joines and the engineering team developed a solution around the manufacturer's processes, product characteristics and plant layout.

The manufacturer chose HPS for its technical expertise, collaborative approach and ability to design bespoke systems to improve yield, reduce water use and support long-term production efficiency.

The Solution



HPS designed an automatic 3-inch pigging solution to recover meat-based product across all three production lines.

Each system included custom launch and receive stations, automatic valves, product flow and pressure monitoring, and bi-directional hygienic pigs. The pigs travel through the pipelines to push residual product to its destination. Pig detection helps ensure the process is controlled and repeatable.

HPS also provided a Functional Design Specification (FDS) to integrate the systems with the manufacturer's existing automation, allowing the pigging sequence to run automatically with minimal operator involvement.

To support start-up, HPS supplied 3D design drawings, on-site commissioning and operator training.

Results

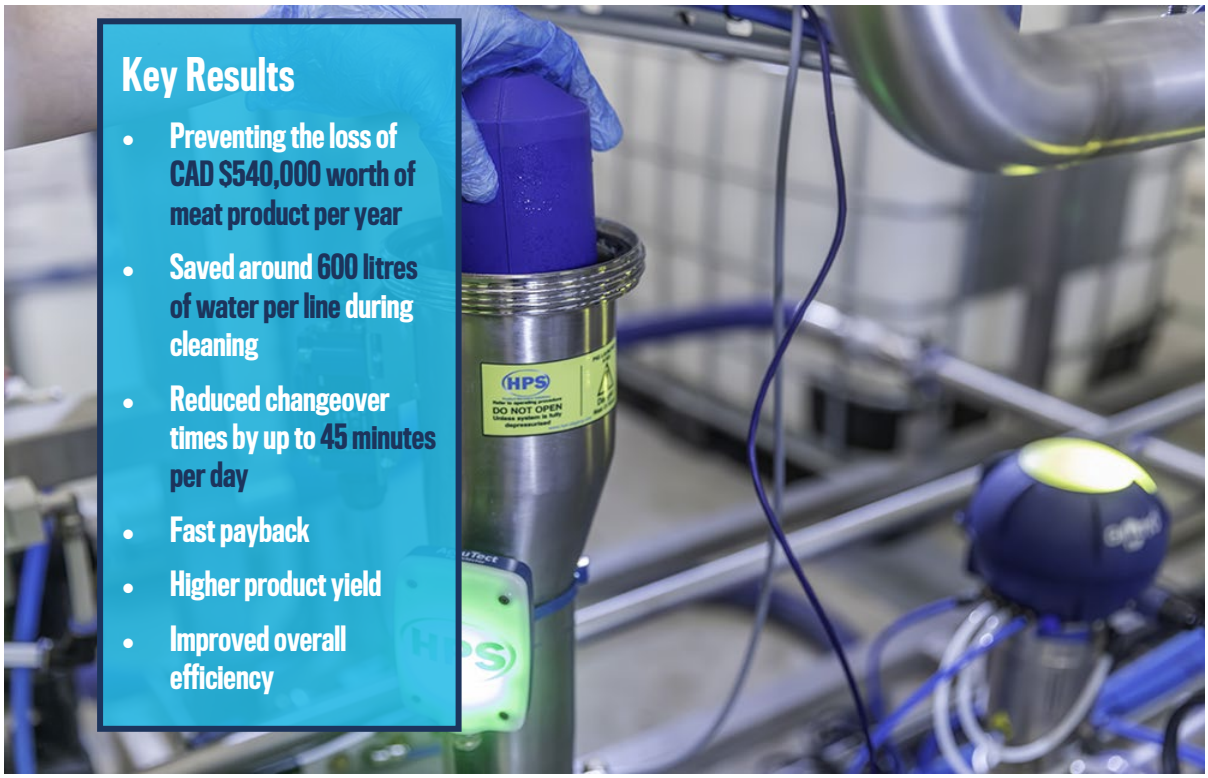
Since installation, the three automatic pigging systems have improved product recovery, efficiency and sustainability across the manufacturer's Canadian production lines.

The systems recover product that previously remained in the pipelines and went to waste. This prevents the loss of **approximately $540,000 CAD worth of meat product per year.** Each line saves around **600 litres of water per batch changeove**r. Changeovers are also faster, **saving up to 45 minutes per day across the production lines** and helping increase production capacity.

The systems run automatically with minimal operator involvement and integrate with the manufacturer's existing control infrastructure. This has improved process consistency and enabled reliable, repeatable product recovery.

Based on product recovery alone, the project is expected to deliver **a 10-year ROI of around $5 million.** The payback period is still to be confirmed.

The project has helped the manufacturer reduce waste, conserve resources and improve production efficiency.



Objectives	
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Shorten changeover and flushing times to increase production capacity and reduce downtime.	**ACHIEVED ✓**
Improve plant efficiency, sustainability and yield through product recovery.	**ACHIEVED ✓**

Contact HPS

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