



Product Recovery (Pigging) Case Study:

Barbot Paints

Porto, Portugal

How Multiple HPS Pigging Systems Are
Reducing Bacterial Contamination in
Water-Based Paint Processing

HPS Product Recovery Solutions

www.HPS-Pigging.com



Summary

- Barbot Paints manufacture a wide range of products, including water and solvent-based paints, additives, varnishes, sealants, and solvents.
- Due to large amounts of product recalls, Barbot began investigating ways to minimise the contamination that they were experiencing.
- HPS designed, implemented, and commissioned multiple liquid product recovery (pigging) systems at Barbot.
- The pigging systems resulted in paint contamination dropping from 20% to approximately 1% of Barbot's production output.
- In addition to contamination reduction, the pigging systems are allowing Barbot to recycle water into production, increasing environmental friendliness.
- The systems are also fully automated, resulting in increased efficiency, reduced contamination, and larger yields.



About Barbot Paints

Founded in 1920 by Diogo Barbot, Barbot Paints began as a family business. A traditional institution, the brand prioritised rigour, safety, and quality in their products.

Since 1920, Barbot has moved premises and expanded to become one of the key paint manufacturers in Portugal. They have a large portfolio of products, including water and solvent-based paints, additives, varnishes, sealants, and solvents.

Dominant in the domestic market, Barbot also has an international presence and reputation, trading in Spain, France, Belgium, Angola, and Cape Verde. Additionally, Barbot has plants in Angola and Cape Verde.

The Barbot Group consists of five companies, and their brands include Barbot and Anpal-Sodulax.



Barbot Paints are one of the key paint manufacturers in Portugal.

Project Background

Barbot was experiencing a large quantity of product recalls due to bacterial contamination in their water-based paint. The contamination was a combination of paint standing in the dedicated transfer pipes, along with reduced inclusion and effectiveness of biocides, in line with EU regulations.

The contaminated lines were being used to transport water-based resins, water-based calcium carbonate slurries, titanium dioxide slurries, and water-based paints.

Due to the bacterial contamination, 20% of the paint produced was returned to Barbot for rework, resulting in time lost and costly scrapping of the contaminated product packaging.

Why Barbot Investigated Pigging Technology

As a result of the contaminated lines, Barbot began looking for a solution to their problem. They were looking for a technology that would minimise contamination risks and, during the research period, they came across HPS.

HPS Advanced Liquid Product Recovery Technology, also known as “pigging”, is used by manufacturers of liquid products to recover products from pipelines for further processing, packaging, and sale.

There are many benefits of pigging, such as increased yields, reduced waste, improved environmental sustainability, and, importantly for Barbot, reduced contamination risks.

Why Barbot Chose HPS as their Pigging Systems Provider

Barbot chose HPS due to significant experience with pigging for paint and coatings manufacturers. Having previously worked with paint manufacturers such as PPG, AkzoNobel, Kelly-Moore Paints, and Ronseal on a variety of projects, HPS had plenty of experience to help Barbot tackle their contamination problem.

Having researched HPS thoroughly, they reached out to discuss their project in greater detail.

During their conversations with Gary Joines, HPS Systems Design Manager, a solution was proposed that would facilitate efficient minimisation of contamination plus product recovery. The price given to the Barbot team was favourable, and they decided to partner with HPS for their project.



Key Objectives of the Pigging Project

The key aim of pigging for Barbot was to reduce the bacterial contamination of their products.

By reducing the levels of contamination within their transfer pipelines and paint using pigging, the quality of Barbot’s products would increase, as would product safety. They would also be able to reduce the amount of time spent on product rework and cut how much product and packaging they would need to waste.

Using hygienic equipment that could withstand rigorous cleaning and would limit the potential for contamination was also important to Barbot’s objectives.

The Solution

Working alongside the Barbot team, four lines that needed pigging technology to eliminate the bacterial contamination present were identified.



**HPS Advanced Liquid Product
Recovery (Pigging) Technology.**

The lines transferred products between tanks, from raw materials to production to product holding. Two of the lines were 3-inches in diameter and two were 4-inches in diameter. All the lines varied in length.

HPS designed, supplied, implemented, and commissioned fully automatic, single-pig pigging systems for each of the lines.

HPS pigging technology is designed for use in hygienic applications, including paint production, reducing the risk of contamination and cross-contamination in lines.

The design of the HPS pig allows for bi-directional travel. It also allows for a combination of propellants to be used. Barbot utilises water and compressed air to propel the pig through the line and back to its housing.

In addition to the systems, Barbot is also benefitting from the HPS AccuTect pig detection system. Using the AccuTects, Barbot can reliably track the location of the pig and control deployment and return from the HMI/PLC.

The Results

Since having the pigging systems commissioned, bacterial contamination in Barbot's products has been reduced to almost zero.

By using water as a propellant, the initial flush that many manufacturers perform as part of their cleaning processes is incorporated into the pigging sequence, saving time, and encouraging thorough cleaning. Pigging also recovers up to 99.5% of the residual product from Barbot's lines, making CIP procedures more thorough.



HPS Advanced Liquid Product Recovery (Pigging) Technology.

Additionally, the water used by Barbot to propel the pig is collected upon return and recycled into production, cutting their water consumption and improving the company's sustainability.

The presence of bacteria in the pipeline has been significantly reduced, ensuring that Barbot's products comply with quality and safety standards. As such, they now experience fewer product recalls and are saving money and time on product rework and packaging disposal.

Contact HPS

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