



**SAVE PRODUCT,
SAVE TIME:
PROVEN TECHNOLOGY
TO BOOST YOUR YIELDS,
CAPACITY, EFFICIENCY,
AND SUSTAINABILITY**

HPS PRODUCT RECOVERY SOLUTIONS

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THE CHALLENGES OF MODERN FOOD AND BEVERAGE MANUFACTURING:

Do any of these sound familiar?

- Incomplete or ineffective product recovery attempts
- Excessive and time-consuming cleaning procedures
- Unnecessary downtime during changeovers
- Significant product loss through flush waste
- High rinse water and CIP chemical consumption.
- Inconsistent product quality and high contamination risks.

These common issues add up quickly, reducing efficiency and profitability.

THE SOLUTION: PIGGING TECHNOLOGY

If these challenges sound familiar, you're not alone. Many food and beverage manufacturers face these same obstacles, which can have significant impacts on both operational efficiency and the bottom line.

The good news is that there's a proven technology designed specifically to address these issues: Pigging Technology.

WHAT IS PIGGING?

In modern food and beverage processing, Advanced Liquid Product Recovery (Pigging) Technology recovers residual liquid product from pipes. If it wasn't recovered by pigging, this liquid would go to waste, or at least be downgraded.

The recovered product is perfectly useable so can be sold, stored, packed, or continue to be processed along with the rest of the batch, rather than being flushed down the drain.

If you work for a company that transfers liquids through pipelines during manufacture or processing, our state-of-the-art automatic pigging technology stands as a game-changer for products like:

- Sauces
- Dips
- Nut Butters
- Sugar Syrup
- Honey
- Yeast Extract
- Soft Drinks
- Processed Cheese
- Spirits
- Wines
- Juices
- Plus Many More

CONTACT US

Find out more about pigging technology for food and beverage manufacturers by getting in touch! Our experts will be happy to answer any questions you may have!

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HOW PIGGING WORKS.

A pigging system uses a specialized projectile, known as the "pig," which is slightly larger than the pipeline it moves through. The pig is automatically introduced and propelled through the pipeline by pressure applied behind it. This pressure can come from sources such as compressed air, carbon dioxide, nitrogen, or even the product itself, depending on the specific application.

Instead of flushing away residual liquid, the pigging process recovers it by pushing the remaining product to a filler, tank, or back to the source for further processing.

Pigging is a fast, efficient method that can be implemented in both new and existing pipelines.



HPS ADVANCED LIQUID PRODUCT RECOVERY DELIVERS:

- High Return on Investment (ROI)
- Increased Yields and Better Margins
- Reduced Waste and Less Downtime
- Increased Plant Capacity
- Streamlined Changeovers and CIP
- Prevention of Aeration, Foaming and Dissolved Oxygen
- Lower Water and Energy Consumption
- Minimised Cross-Contamination Risks
- Reduced Effluent and Associated Costs
- Boosted Productivity and Efficiency
- Improved Environmental Sustainability



REAL RESULTS FROM FOOD AND BEVERAGE MANUFACTURERS

- ✓ Up to **99.5%** product recovery from pipelines.
- ✓ Preventing the loss of **1,200 gallons** of usable product per cycle.
- ✓ **4% increase in yields**—equating to 48,000 extra cans per week.
- ✓ Sanitisation times of **15 minutes** rather than 2 to 3 hours.
- ✓ **500–600 lbs of product** recovered per changeover.
- ✓ Saving approximately **40 megalitres of water** annually.
- ✓ Lower carbon footprint—improving sustainability and reducing waste.

SOLVE YOUR KEY CHALLENGES



PRODUCT RECOVERY

Pigging systems recover up to 99% of the residual product left in pipelines, ensuring more of your valuable product is recovered, reducing loss and waste.

This allows manufacturers to reclaim valuable product, improving yield and profitability with minimal flush waste.

Key benefits:

- Maximum product yields
- Reduced product loss and waste
- Improved profitability and better margins

FASTER, MORE EFFICIENT CLEANING

Ensuring cleanliness in food and beverage production pipelines can be a time-consuming and resource intensive task.

Pigging simplifies CIP processes by:

- Reducing flush waste: nearly all product is recovered, reducing or eliminating initial flushes
- Saving resources: reduces the need for heated water and cleaning chemicals
- Pigging sequences are faster than flushing, saving time on the initial stages of cleaning

Speed up changeovers and increase your profitable production time, capacity, and yields.



**INCREASE
YIELDS**

**IMPROVE
CAPACITY**

**INCREASE
PROFITS**

**BOOST
EFFICIENCY**

USING HPS PIGGING TECHNOLOGY



REDUCE DOWNTIME AND FASTER CHANGEOVERS

For manufacturers producing multiple products on the same line, changeovers can be a major cause of downtime. Pigging speeds up the transition between different batches by removing the need for lengthy flushing and cleaning cycles.

- Reduces the time needed for cleaning between batches, allowing for more production runs in the same timeframe
- Enables quicker switchovers between different flavors, colours or formulations
- Increases plant capacity, meaning manufacturers can meet growing demand without major equipment investment

LOWER WATER AND CHEMICAL USAGE

Water usage is a growing concern for food and beverage manufacturers, both for sustainability and cost reasons. Pigging significantly reduces the amount of water required for cleaning by eliminating product residue before CIP begins.

- Reduces water consumption—less flushing means less water is needed to clear the pipelines
- Lowers wastewater treatment costs, as fewer cleaning chemicals are washed away into drainage systems
- Improves environmental sustainability, helping companies meet corporate social responsibility (CSR) goals



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SOLVE YOUR KEY CHALLENGES



MINIMIZED WASTE

Every drop of product that goes down the drain represents lost revenue. Pigging helps minimize these losses by pushing nearly all of the residual product through the pipeline and into the next stage of production.

- Reduces the volume of product lost through flush waste, saving thousands in raw material costs
- Decreases the burden on waste processing and disposal systems, lowering operational expenses
- Improves product consistency, as pigging ensures a clear pipeline without excessive dilution from residual product mixing

REDUCED CROSS-CONTAMINATION RISKS

Cross-contamination between different batches can be costly, leading to wasted product, rework, and even recalls. Because pigging clears out nearly all product from the pipeline, it significantly reduces these risks:

- Minimizes leftover residue between batch changeovers, ensuring each batch starts with a clear pipeline
- Helps maintain strict hygiene and safety standards, reducing the likelihood of costly recalls
- Enhances batch consistency, improving overall product quality



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USING HPS PIGGING TECHNOLOGY

AERATION, FOAMING & DISSOLVED OXYGEN



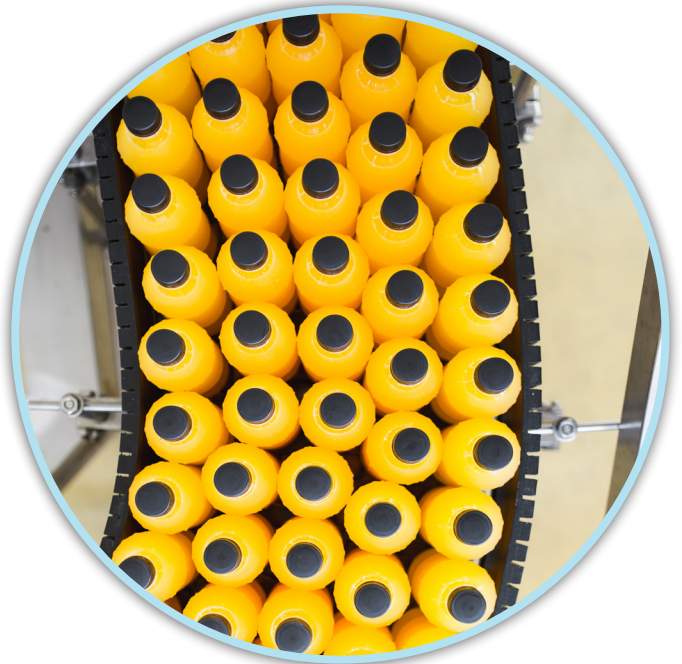
Turbulent flow in pipelines can introduce air into liquids, leading to aeration, foaming, or even product degradation. For example, in wine production, dissolved oxygen can be a serious problem, affecting quality and shelf life.

- Pigging helps prevent aeration, reducing the risk of foaming and degradation
- Maintains product integrity, which is especially crucial for oxygen-sensitive products
- The HPS Double-Pig Pigging System is designed for processes where the product cannot come into contact with air

ADDITIONAL KEY BENEFITS

Beyond enhanced product recovery, HPS pigging technology also addresses several other critical operational challenges, delivering key benefits that drive efficiency, cost savings, and sustainability across your processes:

- Prevention of product solidification: by reclaiming residual product from pipelines, pigging prevents settling and freeze-ups
- Improved flexibility: HPS pigging systems enable greater flexibility in production, allowing companies to switch between products without significant waste or downtime
- Sustainability: HPS pigging systems help reduce waste, water usage, and chemical consumption, contributing to more sustainable production practices



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MORE INFORMATION

KEY COMPONENTS OF A PIGGING SYSTEM

A pigging system is made up of a variety of different parts and components. These include pig launchers, receivers, detectors, storage, housings, propellant sources, PLCs, HMIs, control software, and various valves, supports and fittings.

However, the most important component is the pig itself.

PIPELINE PIG

The most important component of a pigging system is the pig. This is a specialist projectile that has a diameter slightly larger than the pipeline that it is pigging. As the pig travels through the pipeline, it reclaims the product, optimising recovery within the system.

PIGGING CONTROL SOFTWARE

HPS modern closed-loop systems are fully automatic, requiring no manual intervention during normal operation. The control software or PLCs, with either HMI or SCADA systems, can either be supplied as standalone or can be integrated into your existing setup.

PIG HOUSING

When the pig is not in use, it resides in a special housing. The HPS pig housing, slightly larger than the pig, allows easy and safe removal for maintenance and inspection. It also ensures there's enough room for water and cleaning fluids to flow around the pig for thorough cleaning and CIP.

PIG DETECTOR

The HPS AccuTect pig detector provides state-of-the-art pig detection. An essential component of HPS pigging systems, it determines the presence or non-presence of an HPS pig.

RECEIVE AND LAUNCH STATION

Pig receive and launch stations, often referred to simply as pig stations, serve a crucial role in safely introducing the pig into the product line propelling the pig between source and destination. If required, they provide storage when the pig is not in use.

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The length between the processing areas is 900 feet and it was estimated that about 1200 gallons of product would be lost without a pigging system."

Tyson Richart, KIK Custom Products

VALVES, SUPPORTS AND FITTINGS

Other important components of HPS advanced pigging technology are the valves, supports, and fittings. While valve types may differ across solutions, they collectively serve a common purpose; facilitating the smooth and efficient routing of both the product and pig within the system.

PIPEWORK

A key part of any pigging system is the pipework. HPS work with a wide variety of pipe codes and standards, including ASME, ANSI, ASTM, AGA, API, AWWA, BS, ISO, DIN, plus more. Importantly, your existing pipework needs to be in good condition and free from dents and damage along the length of the pipe you are intending to pig. Please talk to one of our team if you need more information.

PIG CHECKLIST:

- ✓ Typical recovery efficiency of up to 99.5% of product
- ✓ No solid magnets but fully detectable
- ✓ Long life expectancy
- ✓ Maintains performance around 1.5 D bends
- ✓ No fins, caps or assembled pieces
- ✓ Can be cleaned in place or "CIP'd" as required
- ✓ Made from food-grade FDA approved materials
- ✓ Bi-directional
- ✓ Full body contact throughout the pigging process

DIFFERENT TYPES OF PIGGING SYSTEM:

- Single-Pig Pigging System
- Double-Pig Pigging System
- Dual-Pig Pigging System
- Tank Drop-Off Pigging System
- Multi-Source, Multi-Destination
- And More!



PROCESS PERFECTED

HPS advanced pigging technology is trusted by food and beverage manufacturers worldwide, from multinational blue-chip companies to smaller independents, helping optimize yields, increase capacity and improve sustainability.

CUSTOMER FEEDBACK ON HPS PIGGING TECHNOLOGY

// Pigging mitigates the need to flush additional coating through the lines so that change overs and cross-contamination issues are mitigated. In addition, it helps prevent settling and freeze ups by clearing the pipe as frequently as we like with little to no effort.



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With HPS Pigging Technology, CP Kelco are saving approximately 1200 gallons of product per run.

CP Kelco, USA

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HPS pigging systems resulted in a clear increase in product yield, equating to 48,000 extra cans per week.

Coca-Cola, UK



Mondelēz
International



MARS

CONTACT HPS

We're local to you - we have offices in the UK, US and Australia, and agents throughout the world.

UK

From our Nottingham head office, we provide a range of products and solutions to businesses throughout the UK and the rest of the world.

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USA & CANADA

HPS work with organisations throughout the USA and Canada that pump liquids during the manufacturing process, ranging from major household names to smaller independents.

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AUSTRALIA & NEW ZEALAND

HPS Australasia provides liquid product recovery and transfer technology to companies that process liquids throughout Australia, New Zealand, and neighbouring countries

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We also have official representatives based in:

Brazil
India
Mexico
Singapore
China

Thailand
Malaysia & Indonesia
The Netherlands
Belgium