



A Guide to Sanitary Product Recovery (Pigging) for

Beverage Companies



HPS Product Recovery Solutions

Quality • Innovation • Simplicity • Integrity

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A Guide to Sanitary Pigging for Beverage Companies

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Summary

For companies that process liquids, sanitary product recovery (“pigging”) is one of the most effective ways to improve product yields, reduce waste, speed up production time and save water. And because pigging saves product and other resources, it has a positive impact on the environment and helps companies towards their sustainability goals.

Sanitary product recovery and pigging systems are particularly effective, and in wide use, in beverage processing and production.

As well as improving efficiency and profits, pigging has additional benefits to beverage producers such as preventing product aeration and foaming, reducing oxidation and cross-contamination risks.

Liquid transfer solutions such as the Automatrix (an automatic piggable valve matrix) and the Rotomatrix (a piggable manual manifold) are also used by beverage companies to improve safety, reduce connection errors and speed up changeover and connection times.

From beer, cider, spirits and soft drinks to fruit juice, wine and sports drinks, HPS pigging systems deliver rapid payback and return on investment.

This guide provides an overview of sanitary (often called hygienic) pigging for the beverage industry. It includes an introduction to how pigging works, the benefits of pigging, types of sanitary pigging system and liquid transfer technology. It also includes types of pig, how to plan a pigging project, plus much more.



“It’s a great system and if we were building a similar facility, we’d do it all again,

We’re as happy as Larry”

Wolf Blass

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Why Beverage Manufacturers are Pigging?

Here are some of the main challenges facing beverage manufacturers and why an increasing number of them are implementing pigging and liquid transfer systems into their manufacturing plants and production facilities.



With raw material costs constantly fluctuating, beverage manufacturers want to ensure they use everything they buy and avoid throwing high-priced inputs down the drain.



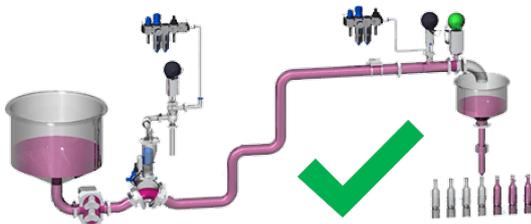
The increasing demand for products that are greener and sustainably produced.



Increasing competition. Manufacturers that aren't agile and efficient risk being left behind.



As competition intensifies in the beverage industry, beverage manufacturers are increasingly cutting waste to preserve already slim margins.



Consumers are now more demanding of products and choice than ever before. Also, sugar taxes are also putting pressure on beverage companies to innovate and introduce new products. As such, they need a solution that can handle multiple products.



The threat of cross-contamination. When an incident occurs, it can attract media attention that has a negative impact on a brand. Therefore, manufacturers are implementing technologies to improve safety and minimise the risk.

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Key Statistics and Takeaways:

- ✓ The highest quality pigging systems typically recover up to **99.5%** of useable, residual liquid from pipes. This recovered liquid can continue to be processed, packaged and sold.
- ✓ Payback from Pigging Systems is typically **less than 12 months**, delivering a **high ROI**.
- ✓ There are different types of pigging system, from simple source-to-destination solutions to multiple-source and multiple-destination projects.
- ✓ Nearly all pigging systems are bespoke, and most are either semi or fully automatic.
- ✓ Pigging is effective – a well-known soft drinks company **massively increased product yield, equating to approximately 48,000 extra cans per week**. If it wasn't for pigging, the product would otherwise be wasted or become effluent.
- ✓ A bottling plant implemented a Pigging System and now saves an average of **256,000 liters of wine** every year.
- ✓ In addition to saving product, pigging saves water. For example, an Australian winery saves over **40 million liters of water** each year, along with wine savings of approximately **40,000 liters**.
- ✓ Savings are significant. A leading soft drinks company **implemented a pigging system which is saving them roughly \$31,500 a day**.
- ✓ Pigging reduces waste and its associated costs. A wine processor has **reduced effluent production** by roughly **1,500 liters per bottling run**, which equates to around **500,000 liters per year**.
- ✓ There are different types of piggable liquid transfer solutions, including the **HPS Automatrix** and the **HPS Rotomatrix** which are widely used in beverage plants.
- ✓ Because the Automatrix reduces manual selection procedures, it **speeds up changeover times**. It also **reduces labor requirements, frees up space and improves safety**.
- ✓ In addition to improving safety, the Rotomatrix increases process speed, reliability and efficiency and **reduces the chances of sending product to the wrong destination**.
- ✓ By reducing waste and improving efficiency, pigging improves **environmental sustainability**.



What Is Pigging?

If you drink wine, beer, spirits, fruit juices, cola or other types of soft drinks; if you eat chocolate, sweets, ready meals, dips, sauces, yogurt, soup or honey; or if you use paint, varnish, shampoo, cosmetics, toothpaste, washing up liquid or other household product, then the chances are you've drunk, eaten or used something that's been 'pigged' during its processing or production.

In the beverage industry, sanitary pigging recovers residual liquid product from pipes. If it wasn't recovered by pigging, this liquid would go to waste. This product is perfectly useable so can be sold or continue to be processed along with the rest of the batch, rather than being flushed down the drain.

How Pigging Works

In its simplest form, a pigging system consists of a solid projectile (the 'pig') with a diameter slightly larger than the pipeline transporting the liquid. The pigging process introduces this pig into the pipeline (usually automatically) and pushes it through the pipe.

To 'pig' a system, pigs are propelled through the pipe by pressurizing the pipework behind it. Compressed air, carbon dioxide, nitrogen, clean water or even the next product (depending on the application) provide the pressure. Instead of being flushed to drain, waste treatment or collection areas, the liquid residue in the pipe is recovered: pushed by the pig and forced to the destination filler or tank, or returned to source, to continue processing along with the rest of the product.

HPS pigs, which are the benchmark of the industry, recover up to 99.5% of product. As well as increasing yields, pigging at this level also reduces the need for water flush and clean-in-place, saving time, labor, water, cleaning fluids and waste disposal costs.



Benefits of Pigging

Sanitary Pigging and Product Recovery Systems deliver a wide range of benefits and a high return on investment. The benefits include:

- ✓ **Increased Profits, Productivity and Efficiency**
- ✓ **Higher Product Yields**
- ✓ **Higher Capacity and Increased Flexibility**
- ✓ **Faster Changeovers**
- ✓ **Lower Cleaning and Labor Costs**
- ✓ **Improved Production Quality and Lot Control**
- ✓ **Less Downtime**
- ✓ **Reduced Product Contamination Risks**
- ✓ **Reduced Waste Processing**
- ✓ **Reduced Water Usage**
- ✓ **Prevention of Aeration, Foaming and Dissolved Oxygen**
- ✓ **Improved Environmental Sustainability**

Increased Productivity and Efficiency

Because pigging systems recover significant amounts of useable product from processes, there's more product to sell. Alternatively, less is required to achieve the same output.

In addition to increased profits, pigging systems streamline processing; reducing effort required and making various operations a lot quicker. They can even eliminate some process stages altogether, for example dismantling pipework or flush outs.

Typically, a correctly designed and implemented pigging solution will pay back the initial cost of the system within one year. Good quality pigging systems last a long time (some HPS systems are still in use after 20 years), so return on investment is significant.



Higher Product Yields

Increased product yield is one of the most common reasons organizations use a pigging system.

Whenever a process transfers liquid along a pipe, there's nearly always product residue left in the pipe. Even gravity fed lines don't evacuate all the product. The more viscous the product, the more residue there is. Pigging systems will help you recover nearly all this residue, as useable product.

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As an example, HPS provided an automatic pigging system for a soft drink manufacturer located in Costa Rica. The pigging system is **saving the company roughly \$31,500 a day**.

HPS also provided three fully automatic pigging systems for a plant that manufactures one of the world's most popular fizzy drinks. Each system delivers product from any one of four tanks to a filling machine. The three pigging systems delivered a **4% increase in product yield**, equating to **48,000 extra cans per week**.

Also, a wine bottling plant implemented a pigging system and now saves an average of **256,000 liters of wine every year**.



Higher Capacity and Increased Flexibility

Manufacturers of beverages may pump many different formulations and configurations of product. However, it's inefficient to have a dedicated line or lines for each product.



Because HPS pigging systems recover nearly all residual product from the pipeline(s), this enables the same lines to be used for more than one product and reduces the number of dedicated lines there are. So, the many dedicated lines can be replaced with a lower number of shared lines. This increases the capacity and flexibility of operations. It also reduces the costs of new installations.

Faster Changeovers

When companies expand product ranges, it's often desirable to use previously dedicated pipelines. However, changeover from one batch to another can account for significant product loss, high wastage costs and less productive human-resource hours.

Pigging speeds up product changeovers because it reduces the length of the wash. If there is only a slight change in product color or flavor it is often possible to follow on immediately with the next product after pigging, eliminating the need for flushing altogether.



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Lower Cleaning and Labor Costs

Pigging reduces the effort and resources needed to clean pipelines. Because there's less product to remove, it is quicker and requires less labor. It also speeds up changeover times so there's less downtime. Semi-automated and fully-automated pigging systems reduce labor costs even further.



Improved Production Quality and Lot Control

Some products should not be left stationary within a pipeline, either because they may deteriorate or because they may solidify. Using pigging, a well-known manufacturer of chocolate coatings pushes significant amounts of product to storage rather than leaving it in the pipelines. This improves lot control and prevents products from sitting unavailable for extended periods of time. It also helps prevent settling and freeze-ups because operators can clear the pipe as frequently as they like with little to no effort.



Reduced Product Contamination Risks

Because HPS pigging systems have high product recovery rates, the chances of product contamination and cross-contamination are greatly reduced. This in turn means more consistent product output, lower rework and better control over raw material and finished product inventory are among the many benefits of pigging systems.

In product to product pushes, pigging minimizes mixing and dilution, which improves quality as well as saving operator time. This in turn reduces the risk of failing audits and expensive product recalls.



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Reduced Waste Processing

By increasing product yields through pigging, there's less product to send to waste. What's more, the cleaning and changeover processes also use less cleaning fluids. In this way, sanitary product recovery and pigging systems directly reduce waste processing costs.

For example, an Australian winery **has reduced effluent production by 1,500 liters per bottling run**, which equates to around **500,000 liters per year**.

Reduced Water Usage

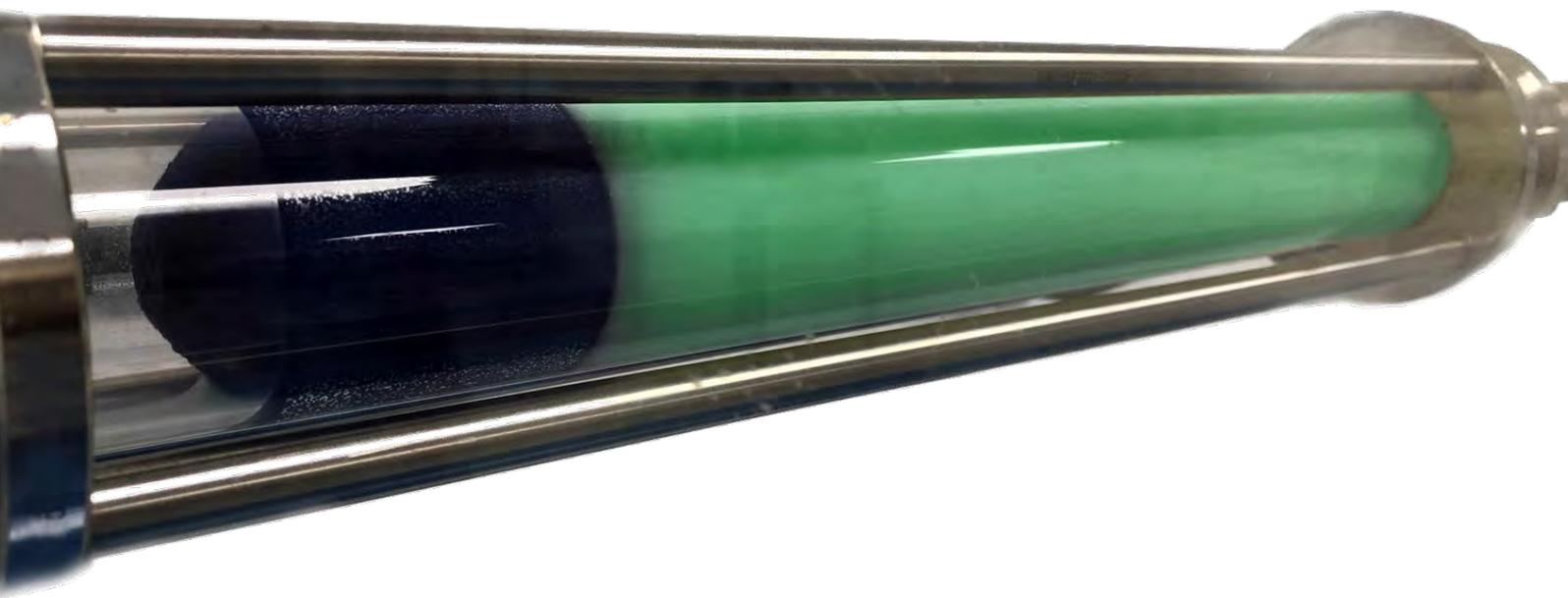
Often the first part of a clean-in-place cycle is to flush out the product residue with water for a period of time before actually proceeding with the cleaning process. If most of the product has already been removed by pigging, then there's no requirement for a lengthy flush out. This reduces water usage significantly.

For example, a well-known wine producer, which has a number of HPS systems in place, estimates that they are **finding water savings of around 40 million liters per year**, in addition to **wine savings of 440,000 liters per year**.

Reduced Use of CO2

Many beverage manufacturers will use CO2 to purge the lines before they transfer the product from storage to the filler, in order to prevent oxygenation.

Sanitary product recovery and pigging systems send a specialist projectile (a 'pig') from the filler down to the product pump outlet, which pushes out all of the oxygen from the line. The pig acts as an interface between the product and oxygen and so prevents oxygen from coming into contact with the product. In this way, pigging prevents the need to charge lines with CO2.



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Positive Environmental Impact

Many beverage companies that process liquids have strong environmental initiatives. Therefore, the positive environmental impact of pigging is a key benefit to many of these producers and processors.

As well as forming part of an ethical business strategy, being environmentally responsible is increasingly important to consumers, employees and other company stakeholders.

The costs of removal or treatment of waste from plants has become a major expense to many liquid processing companies. Additionally, changes in legislation and environmental policies can lead to companies deploying extra resources and incurring further cost. An effective way of reducing these costs, while reducing carbon footprint and improving sustainability, is to pig the product transfer pipelines. This significantly reduces waste and associated costs.

Pigging saves water and saves energy. It reduces the use of harmful chemicals and associated disposal requirements. It also means fewer trucks on the road. In practical terms, the positive environmental benefits of pigging are considerable.

Prevention of Aeration, Foaming and Dissolved Oxygen

As liquid travels through a pipeline, the flow is usually turbulent. If there's air in the pipe, it can mix with the liquid, and the liquid becomes aerated. With certain liquids, even a small amount of air or gas can cause foaming. Others can be degraded or rendered unusable if they come into contact with air. Dissolved oxygen is a particular problem with wine, for example. One of the most effective ways to prevent liquid coming in to contact with air during processing is to use a double-pig system.

HPS
How PIGGING Helps The ENVIRONMENT
 PIGGING is a method of CLEANING PIPES and RECOVERING PRODUCT in LIQUID PROCESSING Systems.
 PIGGING SYSTEMS from HPS can recover up to

99.5%
 of product, which would otherwise go to waste.

The RECOVERED PRODUCT is nearly always USEABLE. So, pigging SAVES MONEY right from the start. And as well as improving PROCESSING EFFICIENCY and INCREASING PROFITS, pigging has a

POSITIVE ENVIRONMENTAL IMPACT:

<p>PIGGING REDUCES RECYCLING & DISPOSAL</p> <p>IT COSTS TO DISPOSE & RECYCLE AND USES RESOURCES</p> <p>PLUS THE WASTE NEEDS TRANSPORT WHICH MEANS MORE TRUCKS ON THE ROAD AND MORE PROCESSING WHICH TAKES MORE ENERGY</p> <p>SO WHY THROW GOOD PRODUCT AWAY? WHEN YOU CAN RECOVER AND SELL IT!</p>	<p>PIGGING REDUCES CLEANING AGENTS</p> <p>MOST CLEANING AGENTS ARE POTENTIALLY HARMFUL</p> <p>SO CLEANING AGENTS POSE SAFETY RISKS MANY ARE CORROSIVE AND GENERALLY UNPLEASANT</p> <p>LEAVING NO ROOM FOR ERROR SUCH AS ACCIDENTAL LEAKAGE... WHICH CAN RUN-OFF TO WATER COURSES AND DRAINS</p>
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PIGGING ALSO SAVES WATER
 For example, an Australian Winery estimates that HPS pigging systems save them

40
MEGA LITRES
 of Water Each Year

SO TAKE...
STOP WASTING PRODUCT **ACTION!** **START RECOVERING PRODUCT**

CONTACT HPS!

For more information, visit www.hps-pigging.com.
 Read our latest news and blog posts [here](#).
 Or email us at info@hps-pigging.com

HPS Product Recovery Solutions.
 Hygienic Product Recovery, Liquid Transfer and Pigging Systems from the World's Leading Specialist.





“The HPS systems resulted in a clear increase in product yield, equating to 48,000 extra cans per week”

Coca-Cola

Types of Pigging System

Pigging systems can be deployed in existing plant, as well as part of new projects or installations.

Because every company's processes and systems are different, every pigging system implementation is bespoke; there's no such thing as an effective 'off-the-shelf' hygienic pigging system. However, in beverage processing, pigging systems tend to fall in to one of three categories:

- ✓ Single-Pig Systems
- ✓ Double-Pig Systems
- ✓ Tank Drop-Off Systems

While these systems can be controlled manually or semi-automatically, most are controlled fully automatically. In particular, double-pig and tank drop-off systems are nearly always fully automatic.

Single-Pig System

Single-pig systems are the most common type of pipeline product recovery solution. They are also the simplest; generally sending one pig from one source to one destination when the main product transfer process has paused or finished.



Single-pig System

In a single-pig system, the pig can either send recovered product to the destination (for example a tank) or back to the source tank.

Double-Pig System

The double-pig system is typically used for processes where the product cannot come into contact with air. This is either because air contact may degrade the product, for example increasing the dissolved oxygen content in wine, or because the product has a tendency to aerate or foam, which can cause processing problems or delays.

Double-pig systems, as the name suggests, use two separate pigs. The sequence of each pig travelling through the pipe ensures that the system recovers residual product and

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transfers product efficiently, while always using the pigs to seal the product from air in the pipe, so avoiding air contact and aeration.

Products commonly associated with a double-pig system include wine, beer and foam gel products.



Double-pig System

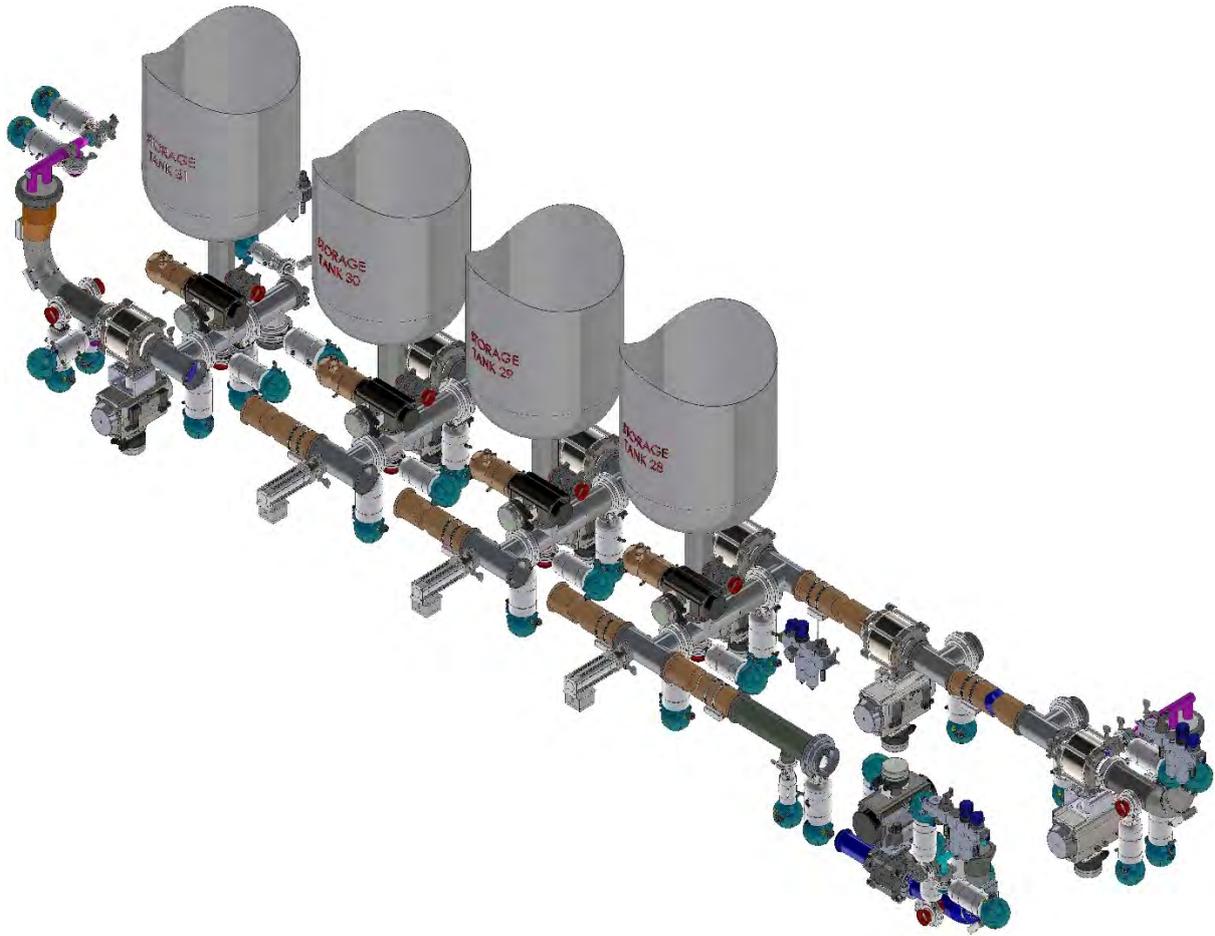
Tank Drop-off

Tank drop-off systems are similar to single-pig systems, but incorporate multiple destinations on the same line, rather than a single destination.

There is no limit on the number of drop-offs. After transfer to a tank, the automatic pigging sequence sends a pig to a blocking valve at the appropriate tank. Any blocking valves between the destination and the pig are opened to allow for a clear route. The pig is then returned with the same receive return station used on a single-pig system.

For more detailed information about the different types of pigging system, including video animations, please visit <https://www.hps-pigging.com/pigging-system-demonstration-videos/>

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Tank Drop-off System

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Liquid Transfer Solutions

Liquid transfer and distribution systems are in use in many food and beverage plants throughout the world. As with pigging systems, HPS liquid transfer solutions are usually bespoke and designed around the needs and requirements of each customer.

Most HPS liquid transfer technology incorporates pigging, and can be easily implemented into existing plants, as well as part of new projects or installations. They tend to fall into the following categories:

- ✓ HPS Piggable Automatrix
- ✓ HPS Piggable Rotomatrix

HPS Piggable Automatrix

The Piggable Automatic Liquid Transfer Matrix System (Automatrix) is a valve matrix used to meet the requirements of processing companies with multiple sources and multiple destinations. The system is fully automatic and is commonly associated with industrial as well as sanitary applications such as food, dairy, beverages and bottling.



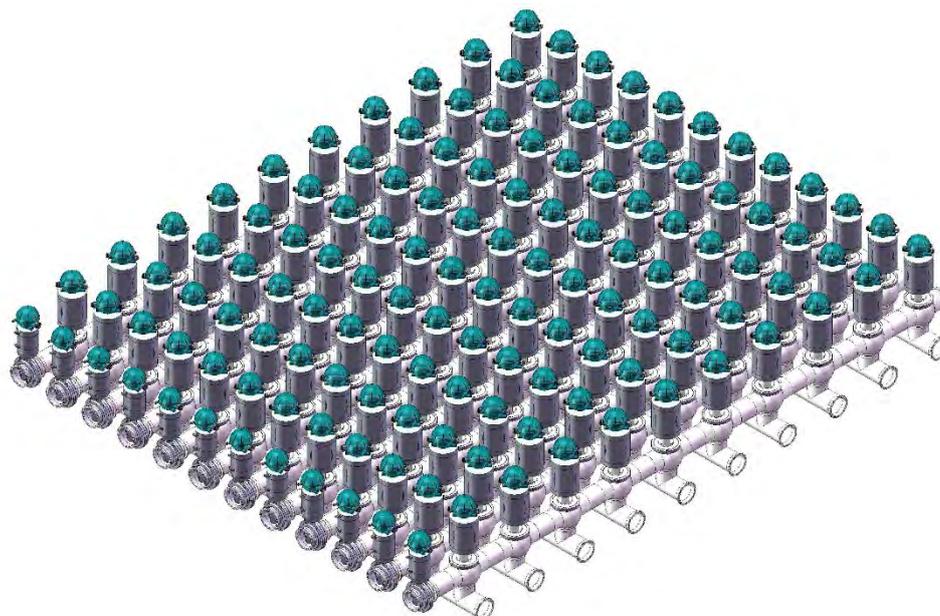
The Vertical Automatrix

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The Automatrix incorporates pigging and enables full path selection and flexibility from any product source to any destination, while automating source and destination selection.

Easy to operate and control, HPS Automatrix technology significantly speeds up changeover times by reducing manual selection procedures. It also reduces labor requirements, frees up space, while improving safety and lowering risks of mistakes and errors.

A key advantage of the HPS Automatrix is that it uses specialist, close fitting valve configurations with minimal dead-space or pockets. So, when pigs travel through it, they recover just about all of the product.



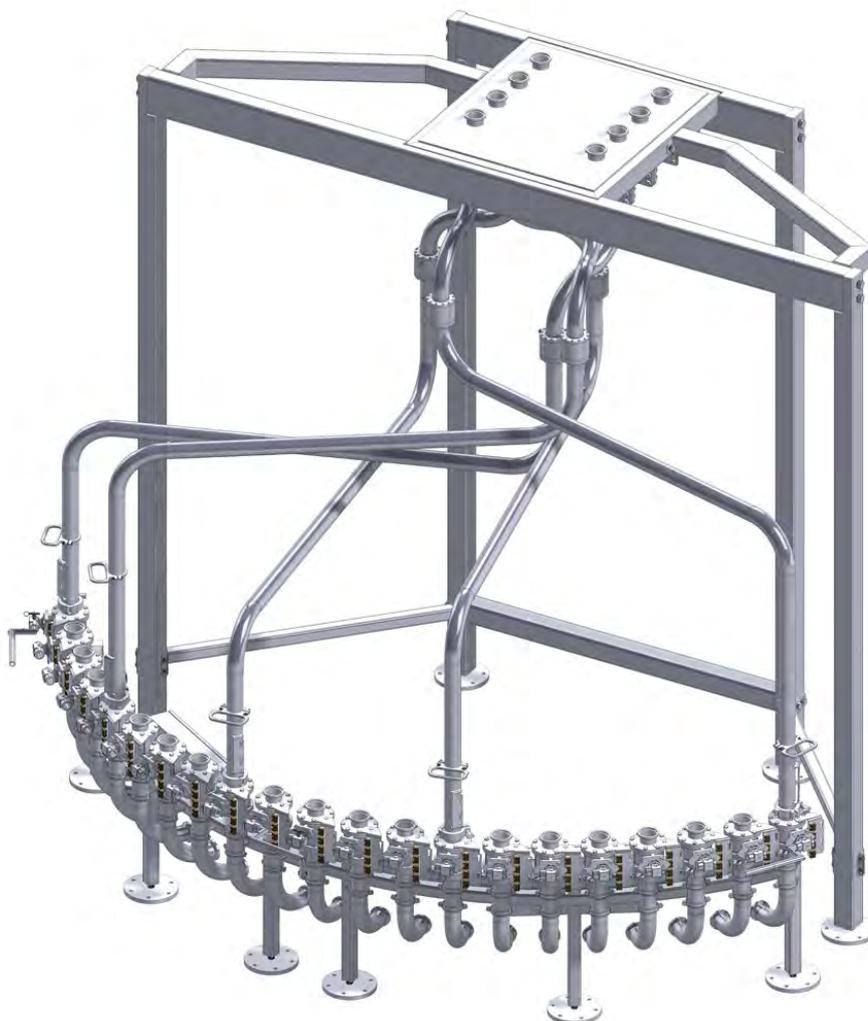
The Horizontal Automatrix

Available in many different sizes and different mounting formats, the Automatrix cuts the amount of pipeline needed, speeds up changeover times, reduces losses, water and labor. It also minimizes contamination and cross-contamination risks.

HPS Piggable Rotomatrix

The HPS Rotomatrix is a manual, piggable Product Distribution Manifold which uses a compact set of rotating arms and is used in processes ranging from wine to personal care and paints. Because the system doesn't have any valves, pockets and dead space, this offers fully flexible product distribution and product recovery from any source to any destination.

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The HPS Rotomatrix

HPS Rotomatrix technology incorporates the use of full-bore hygienic Swivel Joints (Roto-Couplings) to enable each arm to be manoeuvred easily to the desired position and includes path selection feedback. This reduces the chances of sending product to the wrong destination.

Manufactured using sanitary tube, each arm has a pig launcher located directly after the pump. Each destination has a pig receive and return station. This means any pig can be sent to and returned from any destination. Because it incorporates pigging, the HPS Rotomatrix increases product yields, reduces waste, speeds up changeover times, lowers production costs and saves water and cleaning chemicals.

Designed around the requirements of each customer, the Rotomatrix significantly improves safety, process speed, efficiency and reliability. The straightforward, space-efficient robust design also means a low initial cost, low cost of ownership and high return on investment.

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The HPS Rotomatrix

Types of Pigs

Pigging systems include a variety of components, including launch and receive stations, specialist valves, propellant supplies, pig detectors, control software, PLCs and so on.

However, one of the most important components is the pig (or pigs). There is a variety of pigs available for sanitary and hygienic applications.

Basic Requirements

HPS patented process pigs are specially designed for highly effective, reliable and efficient sanitary (and hygienic) pipe line pigging. For use with beverages and food, pigs need to be manufactured from food grade material. They should allow steam cleaning to a reasonable temperature without degradation. While being flexible (so that they can travel around bends and still efficiently recover product), they should ideally be solid; that is, not include caps or assembled components that could catch, break or fall off. Similarly, finned pigs should be avoided. This is because the fins tend to rip or have small pieces break off, while effectively cleaning between the fins is also difficult.



Sanitary Pigs

Detection

To enable full automation, pigs should be fully detectable and ideally be provided with a purpose-designed pig detection system. As well as being detectable, they should also be bi-directional.

To reduce contamination risks, pigs should not contain any solid magnets. Solid magnets and other assembled parts can break free from the pig and contaminate the product. For example, HPS pigs have a flexible silicon-based magnetic core, which will not shatter and so avoids the risk of contaminating the processed product with fragments of magnets. This flexibility also means the pig can travel around 1.5 D bends while still efficiently recovering product.

“HPS Pig materials have been validated several times and shown to give longevity of operation and security of product”

- P&G

Reliability and Effectiveness

Like any component, pigs should have a long working life and include a minimum usage guarantee. They should be available in a range of sizes to suit different pipeline specifications. Above all, they should be effective. They should maintain full body contact with the inside of the pipe and recover upwards of 99% of product.



**“The team at HPS have been brilliant.
They offered a solution that works
incredibly well for our clients and
ourselves. Their after sales service has
also been first rate”**

WineWorks

Planning a Pigging System

Compared to many systems, implementing a product recovery or liquid transfer solution is relatively straightforward. However, to ensure your project runs smoothly, here are some factors to consider at the initial stages of your project.

Aims and Objectives

While efficient product recovery is a key driver to most pigging system projects, overall objectives often include reducing environmental impact, streamlining operations, increasing efficiency or profit maximization. Objectives that are more specific typically include improved pipe cleaning, increasing overall processing speed, and reduction of cleaning product use. However, these objectives vary depending on application. For example, a soft drinks manufacturer may focus on increasing product yields and eliminating as much waste as possible, while a beer manufacturer may focus on improving the efficiency of their operations and reducing water usage.



Similarly, with liquid transfer solutions, objectives vary depending on the application. However, objectives may include improving safety, reducing the risks of incorrect operation, increasing flexibility of processes and reducing the number of dedicated lines.

Regardless of the solution you choose, being clear about your objectives will ensure your pigging or liquid transfer system design meets your needs.

Your Products

As well as the type of products you process, effective pigging system design will require information about typical operating temperatures, viscosity, pumping pressures and so on.

Your Current Operation

Before recommending a pigging solution, it is important to outline to your pigging system provider how your current liquid processing system is set up. For example, how many product sources you have, how many destinations, the approximate distance between each, how you currently clean between changeovers, changeover frequency and so on. It is also important to consider future additions or changes to your processing, and any plans for plant expansion.

Existing Pipeline Infrastructure

The dimensions, material and condition of your existing pipeline infrastructure will directly influence the design of your pigging system. We recommend you consider the following points before implementing a pigging system, as well as during the life of the system:

- ✓ Make sure the length of the pipe you are intending to pig is free from dents and damage.
- ✓ Welds must be clean and have minimal intrusion into the internal bore of the pipe.
- ✓ To prevent progressive damage to the pigged pipe, use anti-vibration cushion-sleeve pipe support clamps instead of metal-on-metal clamps.
- ✓ Instead of rod hangers, use rigid supports such as 'L' frames for the pigged pipe. This will prevent possible movement of the pipe while the hygienic pigs are propelled through it.
- ✓ If you're using compressed air, carbon dioxide or nitrogen to propel the pig, use rigid air pipe rather than flexible air lines (flexible air lines can get distorted and prevent air flow).



Existing Services

There are different ways to propel pigs. The most common is by using compressed air or using a gas such as nitrogen or carbon dioxide. Other methods of propelling pigs include water or even the next product to be processed. It is usually preferable to use existing services if possible, so take a note of the compressed air, gas or other services you have available, including their rating.

Special Considerations

There are some special considerations with certain products such as wine and beer. Because too much dissolved oxygen can make wine degrade quickly, the pigging equipment must be designed

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where the product cannot come into contact with air. This also applies to products which have a tendency to aerate or foam, which can cause processing delays.

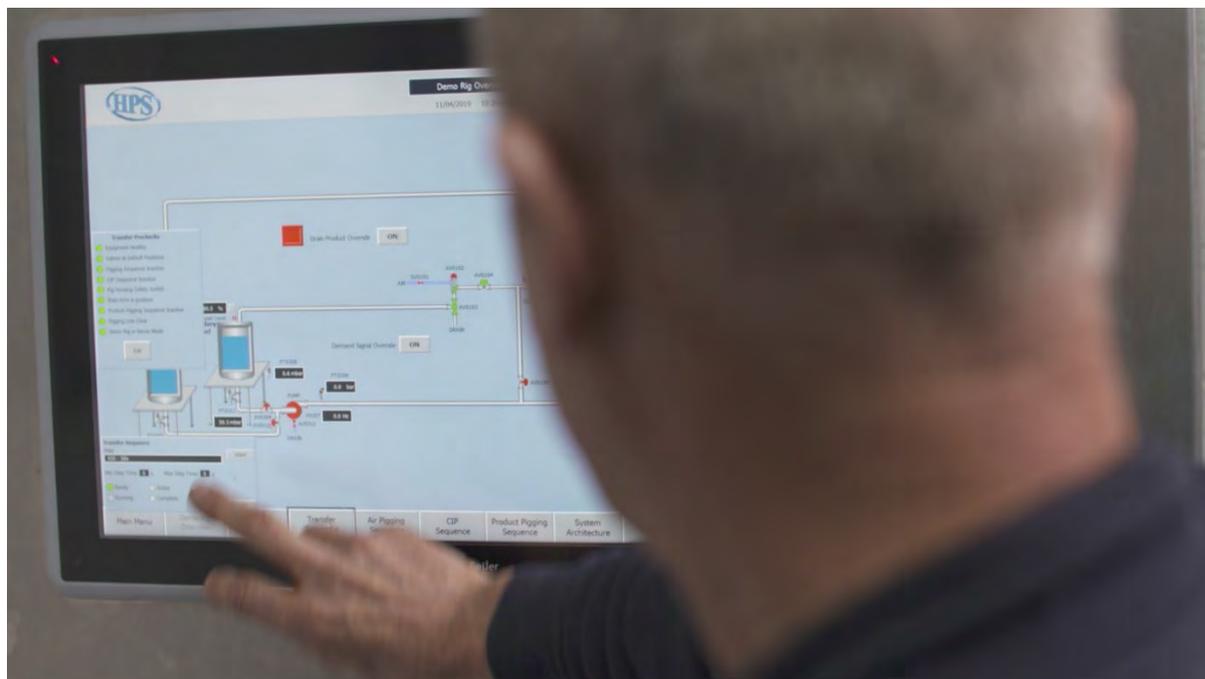
Pigging System Automation

Automated pigging systems are more efficient, more reliable, easier to run and safer than manual systems. You may have your own PLC, SCADA or HMI system specialists that will be able to set up programming and control for you. Alternatively, you can ask your chosen pigging system provider to set up the automation for you.

Pigging system automation systems can be standalone or integrated.

Standalone systems have a separate panel from the existing set up to automatically control the pigging process. Although standalone, it is possible to set up communications to pass data from one PLC to another. It is also possible to hard wire any interlocks and other safety features into the panel.

If there is space on an existing PLC and HMI for integration, it is usually possible to merge the pigging system automation code into it.



Use a Specialist

Although the principles of pigging are straightforward, it takes many years of experience and high levels of expertise to successfully design and implement a pigging system. That's why, if you're considering a pigging solution for your organization, you should always work with a specialist sanitary product recovery company.

A photograph of a soft drink production line. In the foreground, a conveyor belt carries a long, single-file line of clear plastic bottles with red caps. The bottles are moving away from the viewer into the background. The background is filled with industrial machinery, including metal frames, pipes, and other conveyor systems, all slightly out of focus. The lighting is bright and even, typical of a factory environment.

An HPS Pigging System is saving a
soft drinks company roughly

\$31,500

a DAY.

Further Information

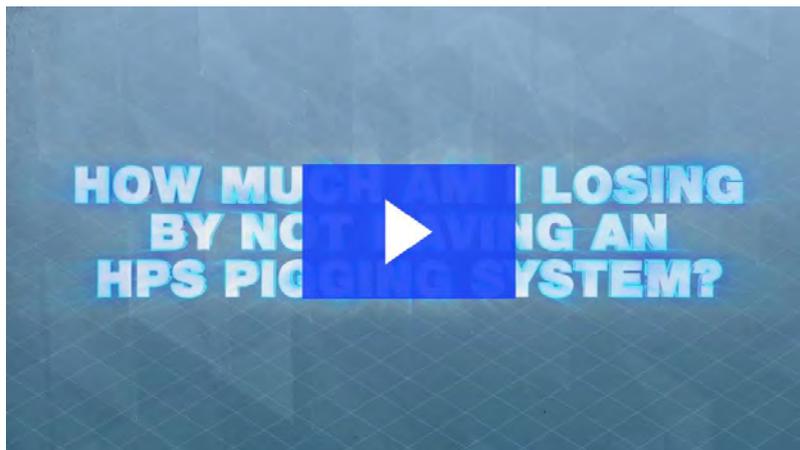
There's a wealth of information about Sanitary Pigging and Product Recovery on the [HPS Website](#).

Here are some of the most popular videos:

Find out about pigging:



Pigging Case Study – how an HPS pigging Systems Saves a Client \$500 000 each year:



See a Pigging System in Operation:



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How an HPS System Will Solve your Biggest Business Challenges



How an HPS System Will Help to Grow Your Business



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Here are some of the most popular articles:

- [Pigging – What Is It](#)
- [Benefits of Pigging](#)
- [Sanitary \(Hygienic\) Pigs](#)
- [Pigging System Savings Calculator](#)
- [How Pigging Helps the Environment \(with Infographic\)](#)
- [HPS News and Blog](#)
- [Automation in the Food and Drink Industries](#)
- [Pricing Pressures in Food and Beverage Manufacture](#)
- [How Food and Drink Manufacturers are Minimising Waste](#)
- [Pipeline Infrastructure for Pigging Systems](#)
- [Pigging System Case Studies](#)
- [Pigging and Product Recovery FAQ's](#)
- [Myths About Pigging](#)
- [Get a Pigging System Quote](#)



About HPS Product Recovery Solutions

HPS is the world's leading specialist in pipeline cleaning, product recovery and transfer for manufacturers, producers and processors of beverages. This includes soft drinks, juices, syrups, energy drinks, beer, wine, cider and spirits and many other products.

HPS clients include Coca-Cola, Britvic, Orlando Wines, E & J Gallo, Glenmorangie, Campari and many others. There are thousands of HPS systems in use throughout the world.

Established in 1995, HPS has extensive experience in beverage processing which ensures highly efficient, reliable and cost-effective operation.

HPS head office is in the UK. The company also has offices in the US and Australia, and a network of agents and official representatives throughout the world.

In addition to beverage companies, HPS also delivers product recovery, liquid transfer and pigging solutions to food, homecare, cosmetics, personal care, paint, pet food and other industries.

You can't take risks with your processes. That's why HPS engineers will work with you to ensure your solution meets your operational requirements – *before you deploy it*.

For more information, please see our contact details on the next page or click here to find your nearest HPS office, agent or representative.



The HPS Difference

HPS are the world's leading pigging and liquid transfer solutions specialists and are different from other solutions providers. The **HPS Difference** ensures that your systems will be a success.



Highly Experienced Team



Strong Track Record



Bespoke System Design



Proven Technology



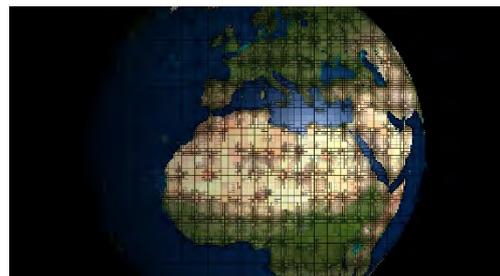
Easy Execution



High Performance Pigs



Fast Support



Worldwide Operation



Dedicated Customer Service



Extremely Safe



A Few of Our Customers



GRUPPO



Orlando Wines
Pernod Ricard



E&J Gallo Winery



PEPSICO



Nestlé

Good Food, Good Life



GLENMORANGIE
SINGLE MALT SCOTCH WHISKY



WINEWORKS



Accolade
Wines



Contact HPS

To improve the efficiency and effectiveness of your beverage processing or production operation, please contact your nearest HPS Office:

USA and Canada:

HPS LLC

T: +1 908 858 5225 E: usa@hps-pigging.com

United Kingdom (Head Office):

HPS Product Recovery Solutions

T: +44 (0) 115 925 4700 E: info@HPS-Pigging.com

Australasia:

HPS Australasia

T: +61 (0)8 8278 1009 E: australia@hps-pigging.com

All other countries:

We have agents and representatives throughout the world.

Please contact the HPS head office and we will put you in touch with your local HPS representative:

T: +44 (0) 115 925 4700 E: info@HPS-Pigging.com

You can also find us on:

