

# Product Recovery (Pigging) Case Study: **KIK Custom Products**

How Automatic Pigging Systems Reduce Waste,  
Increase Efficiency and Help Sustainability in  
Homecare Liquid Production



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## Summary

- HPS designed, supplied and implemented two fully-automatic single-pig systems at a KIK Customer Products plant in Danville, Illinois
- The systems recover around 160 gallons of a popular homecare product (dishwasher fluid) per batch.
- This equates to approximately \$2735 store value of product each batch, or between \$54700 and \$60170 or product a week.
- Pigging has also reduced changeover times
- By saving water, energy and resources, pigging also helps towards KIK's sustainability goals

## About KIK Custom Products

Founded in 1993, KIK Custom Products is a leading manufacturer of a wide range of homecare, personal care, pool additives and pharmaceutical products.

A major part of the company's business is contract manufacturing products on behalf of some of the world's largest retailers and brands.

With manufacturing facilities throughout the US, KIK Custom Products continuously invests in its manufacturing sites, equipment and systems. This all forms part of the company's ongoing commitment to extremely high standards of operational efficiency, effectiveness and sustainability.



## Project Background

KIK Custom Products produces dishwasher fluid for one of its key customers, P&G.

Based in Danville, Illinois, USA, KIK's dishwasher fluid processing system consists of two lines of 3-inch (76.2 mm) diameter sanitary tubing. These have a combined length of about 250 feet (76 metres).

Using pigging within dishwasher fluid processing system helps ensure high operational efficiency while maintaining product quality.



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During each batch changeover, residual product is left in each of the lines. Because of the length of the pipe, the amount of residual liquid is significant. Rather than flush this product to waste, KIK Custom Products wanted to recover it using pigging. And by recovering as much useable product as possible, pigging keeps product waste to a minimum.

In addition to recovering product, pigging speeds up changeover times, so improves efficiency. The more frequent the changeovers are, the more there is to gain from pigging.

At KIK Customer Products, the number of batch changeovers on the dishwasher fluid operation varies. However, there are several each day.

Stan Pintar, Project Engineer at KIK Custom Products, explained,



*“The number of pigging cycles we need every day depends on the number of batches we’re making. But typically there are four or five batch changes a day, with the production team aiming to get at least 20 to 22 batches made in a five-day week”.*

## Why KIK Chose HPS as their Pigging Systems Provider

HPS has a strong reputation as the world’s leading hygienic and sanitary pigging systems specialist, and has worked with a wide variety of companies that manufacture household goods. This includes a number of P&G plants around the world.

Based on previous experience and successful projects, P&G recommended to KIK Custom Products that they use HPS as their pigging systems provider.

## The Solution

Working closely with KIK Custom Products, HPS designed, supplied, implemented and commissioned the system.

HPS engineers and pigging system designers recommended two bi-directional, single-pig systems. The tee-launch type systems include a self-cleaning ball valve and are fully automated, with a programmed control panel with two standalone remote HMI panels to operate the system.

Each of the two launch areas includes an HPS 2-way launch ball valve with double acting actuator, launch housing, pig detector, piggable tee, air vent and pneumatic launch equipment.

Each of the two receive areas includes a receive-return station with propellant valve and filler and drain valves, pig detector, and pneumatic receive equipment.

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The equipment also included a set of 3" pigs (which are guaranteed for 18 miles or 30 km of use), plus full engineering drawings and electrical connection diagrams.

When commissioning was complete, HPS engineers ensured KIK Customer Products staff understood how the system worked and were fully trained to properly and safely operate and maintain the equipment.

## The Results

The primary aims of the project were to reduce product waste, increase yield, speed up product changeovers and subsequently increase profits.

The two pigging systems make significant product savings through highly effective product recovery. Flush waste is minimised and yields have shown a major increase. Rather than being flushed to drain, the recovered product is packaged for sale.

Stan commented,

*"The pigging system saves about 160 gallons of product per batch run. Based on the cost of a standard size bottle of the product when sold in the store, that works out about \$2735. That's a significant cost saving"*

Pigging is also fast, only taking a few seconds. It reduces the need to flush between batches so changeovers are much quicker. With up to 22 batch changeovers per week, this adds up to a major time saving.

In addition to major cost savings and faster processing, the HPS solution has reduced KIK's water use. This has helped towards their sustainability goals.

Stan concluded,

*"HPS provided a great product and a great service. We're extremely satisfied with our experience with HPS and would happily recommend them to others"*

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Stan Pintar, KIK Custom Products

## Contact HPS

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