

A photograph of industrial machinery, likely a gear pump system. It features a white upper section with a rectangular digital display screen. Below the screen, two circular pressure gauges are mounted on a green horizontal rail. The lower section of the image shows a complex arrangement of black and blue hoses and metal fittings against a bright green background.

# Understanding Gear Pumps Part 3



This is the final article in our 3-part Gear Pump Series where we address some inaccuracies in a competitor publication. Most of our responses in this section echo what we've already stated in our previous two articles on gear pumps. Despite the repetitive nature of this, we will go ahead and address each topic as we have done in the previous responses.

We hope that this helped to clear up any misconceptions about gear pumps. Our mission has always been to advance the spray foam industry through innovation, technology and transparency. Our gear pumps are designed using only the best quality materials and engineering that is specific to the fluid dynamics of the chemicals used in the industry.

We use gear pumps because they meet the high performance standards that are an integral part of the technology used to drive our system. If you prefer a piston pump system, then by all means, use piston pumps. We are not here to detract from that. However, we do want you know that you have other options. We want to provide you with the facts so that you can make your own informed decision on what's best for you and your business.

## Competitor Statement:

### 7. Able to hold static pressure when not triggering

Gear Pumps	Piston Pumps
<ul style="list-style-type: none"><li>• Due to the fluid slippage inherent in gear pumps, these pumps have trouble holding stall pressure</li><li>• Being unable to maintain stall pressure leads to ratio overshoots and undershoots as the flow is corrected to compensate for fluid leakage</li></ul>	<ul style="list-style-type: none"><li>• Piston pumps inlet and outlet ball check design allows them to accurately hold stall pressure when not triggering</li></ul>

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## Akurate Response:

- As in our previous response, gear pumps hold stall pressure if the system is designed with a check valve (input and output side), therefore making this a non-issue for comparison purposes.
- As we have answered previously, piston pumps as well as gear pumps hold stall pressure. It's a matter of designing the system to do so.

# Competitor Statement:

## 8. Can provide long-term reliability w/minimal downtime

Gear Pumps	Piston Pumps
<ul style="list-style-type: none"><li>• Gear pumps will wear over time and require maintenance or replacement</li><li>• Fluid shear, caused by gear pumps, may cause ISO issues that will require pump maintenance</li><li>• Flow meters will also require field calibration to account for changes in materials, viscosities, flow rates, ambient conditions and equipment wear</li></ul>	<ul style="list-style-type: none"><li>• Piston pumps are designed for long life applications</li><li>• Piston pumps have very few moving parts, and can run for long periods of time with little to no maintenance and downtime</li></ul>

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## Akurate Response:

- Gear pumps, as well as piston pumps will wear over time. See [page 4 of Graco's Ratio Assurance White Paper](#). "The equipment is also mechanical and will require preventative maintenance over time and experience issues that require repair."
- Our gear pumps are designed to take fluid shear into account and are designed specifically for the fluids of this industry.
- As in our previous response – our flow meters should be recalibrated once every 7 – 10 years per our calculations and manufacturers specification.
- Again, mechanical equipment will require preventative maintenance and experience issues that require repair. ([Page 4 of Graco's Ratio Assurance White Paper](#))

## Competitor Statement:

### 9. Easy to service and at a reasonable cost

Gear Pumps	Piston Pumps
<ul style="list-style-type: none"><li>• Gear pumps may be difficult to service and repair</li><li>• Many parts need to be inspected: wear between gear teeth and housing, bearing wear, gear wear, shaft wear, chemical deterioration, bulged cover, etc.</li><li>• With replacement of any of these parts, the meters will require recalibration</li></ul>	<ul style="list-style-type: none"><li>• The piston pumps used on the Reactor incorporate a quick knock-down design that allows easy service and maintenance</li><li>• Piston pumps are easy to repair and generally require only a new set of seals</li></ul>

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## Akurate Response:

- Akurate offers a guarantee on our gear pumps. If maintenance is required, customers can exchange their gear pumps to avoid future downtime.
- Gear pumps can wear. As in our previous response, our gear pumps are not "off the shelf" and are designed from the best materials and are specific to the fluids used in this industry.
- If maintenance is required, our technical support team will ensure that the total system is operating properly
- Both piston pumps and gear pumps are mechanical equipment that will require service and maintenance. These piston pumps are designed in such a way so that the expected rebuilds can be done in a shorter time frame.