

Xflo™ Fuel Meter White Paper

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Stop Fuel Loss and Increase Revenue

The Wayne Xflo Fuel Meter saves fuel retailers tens of thousands of dollars in fuel lost to meter drift. Building on Wayne's previous metering technology, it is the most accurate fuel meter we have ever developed.

- Less meter drift increases retailer profitability by saving up to 2,400* gallons of lost fuel per year
- Reduces ownership and maintenance costs because it needs virtually no recalibration
- Efficient hydraulic design increases flow rates for faster customer fueling
- Compatible with a variety of alternative fuels
- Based on proven, tested technology

Wayne Xflo Fuel Meter saves Fuel and Money

Fuel retailers have long struggled with the issue of fuel meter inaccuracy as the components and sealing surfaces on typical piston meters wear over time. The result is meter drift and it costs retailers thousands of gallons of fuel per year at each site as fuel is given away a little at a time to customers. What's more, slow flow rates can create lines in your forecourt which can cause drivers to go to a competitor. Another issue is that maintenance and ownership costs are higher than necessary because of the need for frequent recalibration.

Wayne's newly-developed positive displacement Xflo™ Fuel Meter sets a new industry benchmark in metering technology. It is designed to address traditional piston meter challenges such as lost fuel caused by meter drift, slow flow rates and high maintenance costs. The Xflo Meter improves upon Wayne's already popular iMeter positive displacement fuel meter through advances in several areas of pump and dispenser hydraulics including accuracy, calibration, flow rate performance and packaging. In fact, the Xflo Meter can save potentially 12,000 gallons of fuel over five years.*



* Assumes five dispensers per site dispensing 200,000 gallons per month and a 0.1% accuracy improvement.

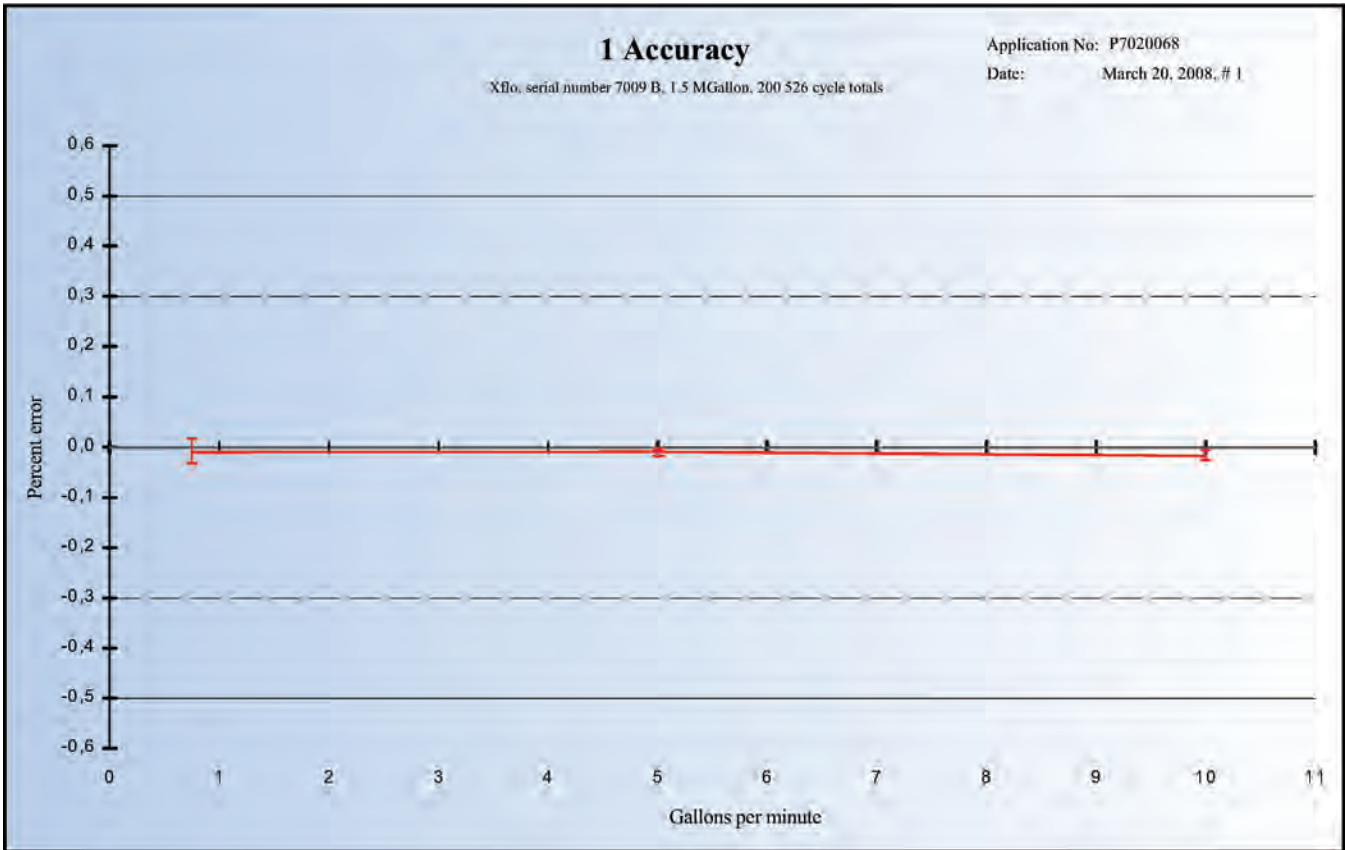
Wayne
FUELING SYSTEMS

Unparalleled Accuracy and Stability

Continuing Wayne’s technology leadership, the Xflo Meter expands on iMeter’s proven features to deliver even more tangible benefits for fuel retailers. Without question, the Xflo Meter is the most accurate meter ever developed by Wayne.

The Xflo Meter’s axial flow architecture represents an evolutionary step in metering technology. Its high precision spindle screw rotor design minimizes contact between the flutes and the sealing surfaces. This decreases the subsequent friction that causes typical positive displacement meters to develop wear patterns. The innovative design mitigates the inherent tendency of most positive displacement meters to “over-deliver”, in effect give away, fuel. Thanks to its highly engineered spindles made of hardened bearing steel, the Xflo Meter offers a new level of accuracy on the forecourt for significant fuel savings.

While Wayne has performed our own internal tests, we engaged a third party lab, SP Technical Research Institute of Sweden, to test the accuracy of the design. SP’s findings confirm what our internal results have shown, that the Xflo Meter’s accuracy remains consistent after measuring high volumes of fuel at varying flow rates.



1.5 million gallon accuracy verification

No Recalibration and Low Maintenance Costs

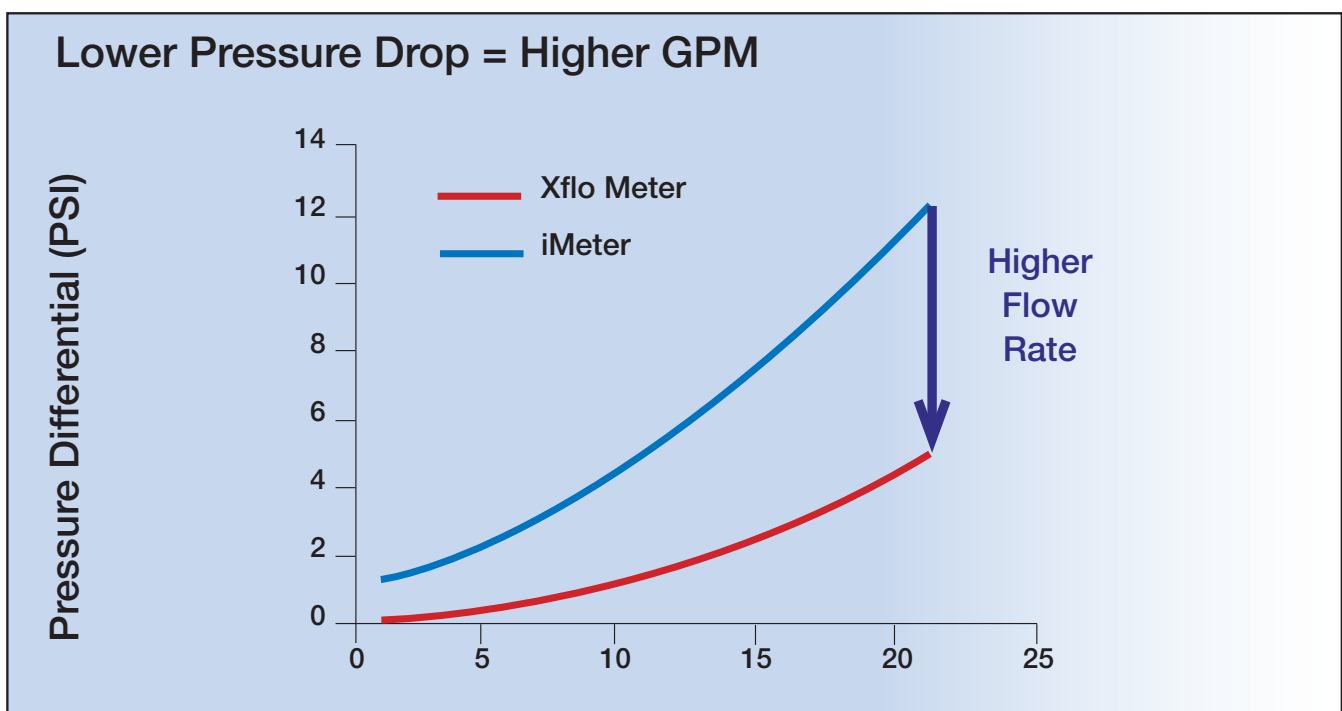
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The unique technological advancement of the Xflo Meter module is the meter's ability to maintain accuracy throughout its service life. This improvement is achieved by reducing the number of sealing surfaces in the measuring chamber that are inherently prone to wear in traditional positive displacement meters. As a result, the Xflo Meter rarely — if ever — needs to be recalibrated, offering true, consistent measurements over the life of the product.

Another key feature that separates the Xflo Meter from its positive displacement predecessors is that each device has a unique calibration identity linked to the accuracy profile of a specific meter. Instead of using generic calibration parameters to adjust a typical accuracy profile up or down to a single point on a calibration curve, each Xflo Meter leaves the factory "tuned" to its own performance profile using several data points across a wide band of flow rates. These curves are stored on the electronics of the XWIP pulser providing a unique calibration signature for each meter.

Faster Throughput

Not only does the Xflo Meter offer premium measurement accuracy, it does so with a far less restrictive design than any other meter. Its axial flow design with screw rotor spindles and a higher capacity 25 gpm filter creates a more direct flow path. The result is a nearly 30 percent reduction in pressure loss meaning the meter is no longer the "bottleneck" in the hydraulic pathway. It offers faster flow rates so retailers can move more customers through the forecourt in a shorter amount of time. It also encourages customer loyalty. These are obvious benefits for traditional retail applications, but it also has strong future potential for high capacity dispensers used in truck stop environments.



Familiar functionality and legacy investment protection

The Xflo Meter retains many of the same proven features valued by Wayne iMeter users. It still employs reliable Hall effect technology to communicate measurement “pulse” data to magnetic sensors on the XWIP. Technicians and sealers installing the Xflo Meter and performing the initial calibration will notice little difference between the operation of the WIP for the iMeter and that of the XWIP for the Xflo Meter. The pulser housings not only look the same, they also function in the same manner, setting the meter through the opening and closing of the calibration door.



The Xflo Meter is also built on the same hydraulic footprint common to the iMeter with identical meter inlet and outlet connections. Designing the new meter for backwards compatibility helps preserve customers' existing investment by allowing new meter technology upgrades on legacy dispensers. The Xflo Meter can be retrofitted to any Wayne-manufactured dispenser that contains an iGEM pump computer and iMeter hydraulics. It is also compatible with Wayne's iX™ Technology Platform, a single technology foundation that provides the scalability to add functionality through easy-to-integrate modules such as the Fusion™ Universal Site Controller, iX Pay secure payment, iSense™ remote monitoring, iDPOS™ in-dispenser POS and iX Media digital merchandising.

The Xflo Meter's compact design also creates additional space in the hydraulic area for improved installation and service access. This allows Ovation® dispensers to be supplied with self-contained suction pumps, a feature not possible for dispensers utilizing the iMeter design.

Growing accessibility

Jointly developed by Wayne engineers in the U.S. and Europe, the Xflo Meter is truly a global product. The company plans to eventually make it the basic platform for all Wayne fuel dispensers worldwide. The Xflo Meter is currently offered as an optional feature upgrade on Wayne's Ovation and Vista fuel dispensers in North America, European-manufactured Global Star® and Global Ovation dispensers and rest-of-world Vista fuel dispensers. The Wayne Xflo Meter is also compatible with a number of alternative fuel types so it will be available on Wayne global alternative fuel dispenser platforms.

Better design, better business

Through cutting-edge advances built upon Wayne's technology leadership, the Xflo Meter delivers unparalleled precision and efficiency. Fuel retailers can accurately sell their inventories without giving away uncalculated fuel which adds up to significant savings over time, especially for large volume retailers.

The Xflo Meter's axial flow design with screw rotor spindles made of hardened bearing steel offers efficient fuel throughput with less wear saving retailers thousands of dollars. In fact, the Xflo Meter has the potential to pay for itself quickly. Its exceptional accuracy practically eliminates recalibration costs. Additionally, higher flow rates mean more satisfied, loyal customers can move through retailers' forecourt environments.

Putting It All Together

The Xflo Meter can be added as an option to the following Wayne fuel dispenser models:

North America

Ovation

Ovation iX

Vista

Europe

Star

Global Ovation

Rest-of-World

Global Vista

Global Vision

The Wayne Xflo Meter is also backwards compatible with all dispensers that include the iGEM electronics module.

Traditional Piston Meters		Xflo Meter	
Feature	Effect	Feature	Effect
Degradation of sealing surfaces prone to wear with mechanical devices	Fuel losses equal to profit loss in a market with decreasing margins	No touching or wearing parts means minimal meter drift	Minimized fuel losses
			No need for field calibrations
			Reduce service cost & downtime of equipment of the forecourt
Seals require initial break-in			Reduced issues with fuel stock discrepancies
Single point electronic calibration	Accuracy difference across flow rates (extreme low and high flows)	Multipoint electronic calibration	No difference in accuracy across flow rates regardless of nozzle open/close position
Meter pressure drop	Inherent flow rate limitation by design	Lower pressure drop	Enables higher flow performance with a more efficient hydraulic design

Xflo Meter Frequently Asked Questions

Why change the industry's prevailing meter technology which has been around for over 60 years?

It's always difficult to go up against the time honored doctrine 'if it isn't broke, don't fix it.' Our iMeter has long been recognized as one of the most accurate meters in the business. However to remain a best in class equipment supplier, it is imperative to challenge tradition and seek new ways to improve on past success. Dresser Wayne's new meter design is a classic example of this philosophy. We didn't invent spindle meter technology but have repackaged and enhanced it through world-class engineering design.

Will the Xflo Meter be more accurate than traditional meters?

Yes. Traditional positive displacement meters have served the industry well and will continue to do so in the future. But the Xflo meter addresses a performance issue inherent to all such legacy meter technology by reducing the amount of contact between sealing surfaces which over time eventually wear like any type of mechanical device. The high precision spindle design ensures minimal contact between the flutes allowing the device to measure millions of gallons of fuel without appreciable drift.

How does this new design affect flow rate?

Spindle-type meters inherently require less pressure to move a given volume of fluid through the device than a comparable piston design. Combine this with a more direct flow path and moving to a higher capacity 25 gpm filter results in the most efficient fluid pathway ever seen on a Wayne dispenser and higher flow rates to speed the fueling process.

How does the calibration work?

Although calibration will likely be unnecessary under normal usage conditions it effectively calibrates in the same manner as the iMeter. We have built in the same simple, single-step process where the same type calibration door is opened, the five gallon test measure is filled to the zero mark and the calibration door is subsequently replaced. Fast and effective.

The difference is that when replacing an Xflo Meter or XWIP a calibration number unique to each meter (and recorded on the side of the meter) must be entered into the electronics and stored for reference to the individual meter.

Is the Xflo meter compatible with alternative fuels?

Yes. The design is well suited for use with a variety of alternative fuels and it will be the future platform on which we build our alternative fuels product line. The alternative fuels version features a cast iron housing and hardened steel spindles which are inherently compatible with E85 and bio-diesel fuels.

How do you physically seal the Xflo Meter?

It is necessary to seal each calibration door on the XWIP just as is done on the iMeter. A seal wire passes through an opening in the door and through a flange on the meter assembly, which can then be sealed by an authorized representative.

Will all Wayne dispensers be supplied with Xflo Meters as standard equipment?

No, the Xflo is offered as an optional feature. Most dispenser models will still feature the iMeter as standard except for the Ovation Eco Fuel models which are supplied with Xflo Meter. The product will be available as an option on the Ovation and Helix product lines and is available for retrofit on selected legacy models

How do I know that this meter is more accurate?

In both extensive laboratory and field tests, the Xflo Meter has performed exceptionally well, measuring millions of gallons of fuel without appreciable meter drift. Wayne even engaged a third party industry expert to review the design; the findings confirmed the new meter's improved accuracy.

Are the flow control valves affected by this design?

No; the Xflo Meter uses the same proportional flow control valves as the iMeter.

Will single-sided units be available with the Xflo Meter?

At this time, Wayne does not plan to develop single-sided models with the Xflo Meter because of low market demand.

What other options are available with the Xflo Meter?

Wayne plans to offer a suction option for meters installed in the Ovation dispenser.

For more information, please visit wayne.com



Wayne.com

Austin, Texas, USA | Malmö, Sweden | Rio de Janeiro, Brazil | Shanghai, China

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