

# Marketing Terminals The Brodie “SAVMOR™” Way

With Low Flow Recognition™  
a quantum leap in safety is a reality.



**In today's business environment**, change is the only constant. The Petroleum Industry sees ever accelerating examples of this. Marketing Terminals are no exception. Changing regulations, new fuels with significantly different loading characteristics and ever increasing client expectations are making Terminal Operations even more complex.

Combining this changing environment in Terminal Operations with the requirement for improved loading performance and tighter cost controls, Marketing Terminal owners are driven to continually challenge every aspect of their business.

What should a Terminal owner do to address the compounding impacts of these multiple challenges? There are several distinct operational and maintenance programs that each terminal operator must consider in their drive for growth and improved profitability. Of course, improving the core custody transfer transaction is critical and must always be included as the basis for any program of change. An integrated approach that improves loading cycle efficiencies, reduces maintenance costs and increases thru put, when combined with leading edge custody transfer measurement will contribute significantly to increasing a Marketing Terminal Operator's performance and profitability.

**Using Brodie's BiRotor *Plus* meter, custody transfer accuracies are 60% better than API standards.**

Brodie has determined that to maximize the efficiency and effectiveness of the whole truck loading operation while exceeding required industry standards and customer expectations requires a best in class multi-faceted approach. Obviously, the objective is to accurately load as many trucks as possible without disruption, spills or downtime. At the core of this objective



Large terminal using BiRotor *Plus* Meters

is the custody transfer measurement technology used in the terminal. Delivering consistent performance day after day is paramount in reducing costs and increasing profits. To achieve this objective, downtime, maintenance costs and measurement inaccuracies must be driven from the equation. When using Brodie's **BiRotor *Plus*** Positive Displacement Meter integrated with the Brodie TruAct™ Digital Control Valve, custody transfer accuracies 60% better than API standards are guaranteed. This alone drives product loss to a minimum, delivering improved profitability.

Meter wear is a high maintenance cost leading to process disruption, downtime and reduced profitability. Using the Brodie **BiRotor *Plus***, with no moving parts in the measuring unit that touch, wear is moved to an immeasurable level. The **BiRotor *Plus*** double case meter leads to unparalleled stability and reliability driving real money to the bottom line.

**Example: a 500 truck per day load rack using BiRotor *Plus* was able to save on average over \$200,000 per year for the five years that data has been gathered.**

This was directly a result of reducing downtime and the efficiency of the meter. For those extreme critical application requirements, the Brodie **BiRotor *Plus*** provides unequalled performance with its guaranteed accuracy.

A Marketing Terminal operator must be constantly aware of and meet the myriad current and future governmental requirements and regulations. Foremost is the absolute focus on safety and regulatory compliance. Fuel spills and safety issues are not acceptable. A very critical but practical situation within Marketing Terminals is how an operator insures there are no flow or environmental evasive "LEAKS".

In low flow conditions it is common for many meters not to register any flow. This phantom flow creates a potentially hazardous situation in the terminal. The standard perception in the industry is that there is no known basis for determining whether there is flow or “LEAKS.” Brodie’s SAVMOR™ approach provides answers at what used to be unknown levels of flow. With the **BiRotor Plus**, “LOW FLOW RECOGNITION” is finally a reality. Brodie’s SAVMOR solution will support a Marketing Terminal Operator in defining a “Leak Situation” so there are NO environmental incidents developed.

**With the  
“LOW FLOW RECOGNITION,”  
a quantum leap in safety is possible.**

Brodie’s new SAVMOR program is an integrated multi-prong approach for improving marketing terminal truck loading performance. Focusing on increasing equipment availability with industry leading accuracy and repeatability is the key. Improving truck loading efficiency through fast metering ramp up and topping increases the number of loads per day. Combining these two operating factors with Brodie’s unmatched reliability leads to low maintenance costs and minimal recalibrations which drive costs down and profits up.

The critical factor driving truck loading performance efficiency is the time it takes for measurement technology to ramp up so that accurate measurement can be guaranteed. Correspondingly, effective topping off requires metering solutions which do not lose their accuracy as flow slows.



In these applications, having a single measurement device which can span these requirements through best in class turn down ratios is the only practical answer.

Only with the Brodie **BiRotor Plus** solution are you able to get the required accuracy throughout a broad flow range that allows these faster and more accurate truck loads to be accomplished. Alternative flow meters have a much narrower flow range and significantly lower turn down ratios requiring higher flow rates to achieve accurate measurement, which in turn translates to losing accuracy across the flow rates compared to the **BiRotor Plus**.

When using the **BiRotor Plus**, product lost due to loading cycle meter errors is virtually eliminated, which in turn drives margin improvement. As ethanol and bio diesel continue to move into the equation more and more, meter accuracy becomes even more challenging. The **BiRotor Plus** meets this challenge.



With the Brodie SAVMOR program significant benefits begin upon installation and continue to accrue over time. Employing this program provides a way for terminal managers to survive and prosper. Ask a

Brodie representative for additional information on the high accuracy, low maintenance custody transfer measurement solution. Brodie has been providing quality, low total cost of ownership terminal custody transfer solutions for years. Now with the new Integrated Marketing Terminal SAVMOR program, it again brings innovative answers to difficult questions.

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**Positive Displacement Flow Meter  
BiRotor *Plus* Series**



<b>Sizes:</b>	3", 4" and 6"
<b>Flow Ranges:</b>	40 GPM – 900 GPM 150 – 45 LPM 9 – 272 m <sup>3</sup> / Hr
<b>Flange Connections:</b>	3", 4" & 6" ANSI DIN 80, 100 Flanges
<b>Pressure Ratings:</b>	150/285; 300/740 ANSI
<b><i>Materials of Construction:</i></b>	
<b>Meter Housing:</b>	Aluminum
<b>Meter Internals:</b>	Aluminum, Stainless Steel
<b>Seal Materials:</b>	Viton, Low Swell Nitrile
<b>Bearing Material:</b>	Stainless Steel
<b>Accuracy:</b>	Capable of better than +/- 0.10% over 30:1 turndown
<b>Repeatability:</b>	+/- 0.01% or better over 30:1 turndown
<b>Output:</b>	Pulse
<b>Design Specifications:</b>	Class 1, Groups C & D, Division 1 SEP, PED & ATEX, ICE-EX
<b>Certified Dimensions &amp; Weights:</b>	Consult Factory

