

## Total adopts Brodie BiRotor Plus™ meters

**Total's road tanker loading terminal at Killingholme, Lincolnshire has standardised on Brodie BiRotor Plus™ meters for custody transfer duties.**

The twelve loading bays at the site handle a total throughput of two billion litres of product per year and have all been fitted with the meters, supplied by Flotech Solutions - the sole UK distributor for Brodie. The meters have enabled unprecedented levels of reliability, repeatability and accuracy the company states.

"We are a 24/7 operation" said Terry Williams the terminal manager. "We also need to ensure we meet the stringent requirements of Customs and Excise for custody transfer metering. This means that reliability, repeatability and accuracy of metering are extremely important. These meters have proved to be an excellent choice for us."

Brodie, through Flotech Solutions, has been working with Total to address an



application issue on DAWS (de-aromatised white spirit). DAWS is a dry fluid which tends to dissolve lubricants, leading to bearing wear. This required an innovative solution using specialised ceramic bearings, which removed the need for lubrication by the product. The meter used in this application has shown no sign of deterioration in K factor (pulses per unit volume), therefore no signs of wear after 8 months of daily use. This, almost friction free meter, can be used reliably on other dry products such as LPG.

Many of the installed

BiRotor Plus meters have shown no sign of K factor change since installation. The "proving" reports over the last 3 years, clearly demonstrate straight-line characteristics. The meters on site have proven to be so reliable it has been possible to extend proving intervals, saving both cost and downtime.

Operating over a 30:1 turndown, Total have experienced a repeatability of +/- 0.01% and an accuracy of +/- 0.075% - exceeding the accuracy required for custody transfer by a significant margin. The BiRotor Plus meters have

enabled operational benefits to be achieved. For example, improved meter repeatability has meant fewer changes to meter factors to satisfy the stringent requirements of Customs and Excise, thereby reducing costs. A reduction in product losses has also enabled further cost savings to be made, generating additional revenues from the enhanced accuracy over a long period of time.

The BiRotor Plus meters have proved easy to maintain. Following a short training session by Flotech, site personnel have managed to maintain the meters when required. "On the rare occasion we have experienced a break down," continued Terry Williams, "the repair has been simple to carry out, something that is highly important when operating 24/7."

The BiRotor Plus meter is the core measurement device of Brodie's Savmor Program which is focused on creating greater operating efficiencies for the terminal and improving profits. ●

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