

A Marriage Made In Heaven

FLOGAS, A UNITED KINGDOM LPG-DELIVERY COMPANY, BENEFITS FROM MELLER FLOW TRANS METERING SYSTEM THAT FEATURES BLACKMER® LGL SERIES SLIDING VANE PUMPS AND FLOWCOM 2000 FLOW METERS

By Jean-Marc Bernard



Thanks to the efforts of innovative product-transfer solution providers like UK-based Meller Flow Trans Ltd., LPG-delivery company Flogas has found a next-generation solution to keeping its LPG-delivery vehicles on the road in the form of a product-transfer and metering system that features Blackmer® LGL Series Sliding Vane Pumps and Flowcom 2000 Flow Meters.

Fleet operators in any industry have one driving principle: keep the vehicles on the road or delivery schedules—and customer satisfaction—will be compromised. For package handlers and suppliers of inventory to grocery or clothing stores, that requirement can be pretty straightforward, just drive up to the destination and unload the cargo. For others, however, it is often easier said than done.

Take LPG, for instance. Making an LPG delivery is not just a simple case of arriving at the desired address and leaving a box on the front stoop. While the actual delivery truck is a critical and indispensable component in the LPG supply chain, deliveries can only be completed if the truck is outfitted with a series of pumps, meters, hoses, controllers and monitors that enable the transfer of the LPG from the delivery vehicle into a storage vessel. It is the abuse of daily over-the-road travel that can compromise the performance of



QUICK FACTS

- Company:** Flogas
- Location:** Leicester, United Kingdom
- Market:** LPG Supply and Delivery
- Distributor:** Meller Flow Trans Ltd., Bradford, United Kingdom
- Challenge:** Develop and utilize an on-truck LPG-metering system that can survive the rigors of over-the-road LPG delivery
- Solution:** Blackmer® LGL Series Sliding Vane Pumps; Flow Instruments Flowcom 2000 Flow Meter



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the sensitive transfer equipment, making the need for reliable, robust components a front-of-mind concern for LPG delivery companies.

“Vehicles are notoriously damaging and require robust operation,” explained Mark Allcock, Managing Director for Meller Flow Trans Ltd., Bradford, United Kingdom. “We don’t want sensitive equipment on the vehicle that will not stand the test of time and stand the rigors of daily road use.”

A Systematic Solution

Meller Flow Trans was founded in 1960 by George Meller as an industrial engineering firm, but over time has evolved to focus on and specialize in creating product-transfer solutions for the United Kingdom’s transport industry, with nearly 50 years of commitment to developing cutting-edge LPG-delivery systems. Traditionally, these systems featured a mechanical metering system that would govern the transfer of the LPG from the storage tank to the delivery vehicle, and from the delivery vehicle to the customer’s storage vessel.

While mechanical positive displacement oscillating piston-type meters have, over the years, performed well in these applications, the fact that they require moving parts in order to operate makes them susceptible to damage that can put them out of commission and hamper on-time delivery efforts.

“Mechanical meters are reliable in their own way, but there are moving parts, things that can go wrong,” said Allcock. “What we’re trying to do as a systems provider is bring together the most reliable pieces of equipment that we can find to give our end users, our customer base, a fit-and-forget metering and delivery system.”

In the search for a solution, eight years ago Allcock and Meller Flow Trans came upon the Flowcom 2000 Flow Meter, which is produced by Flow Instruments & Engineering GmbH, a European company based in Solingen, Germany. What sets the Flowcom 2000 apart from traditional meters is that it facilitates fluid transfer through venturi-based pressure-differential metering principles, rather than mechanical moving parts.

“These were the first people I knew of to use pressure-differential metering on trucks,” said Allcock. “The Flowcom 2000 is highly machined, a very, very accurate piece of equipment. It lends itself perfectly to the road-transport industry because there are no moving parts.”

The Flowcom 2000 turned out to be the final piece in Meller Flow Trans’ delivery-system puzzle that for four decades had included LGL Series Sliding Vane Pumps from Blackmer®, Grand Rapids, MI, USA, a product brand of PSG®, Oakbrook Terrace, IL, USA, a Dover company. Meller Flow Trans has worked with the vast majority of LPG-truck fabricators in the UK. Outfitting literally hundreds of customers’ vehicles with the Blackmer/Flowcom 2000 delivery system.

“We’ve been selling Blackmer cargo pumps in the UK for more than 40 years,” said Allcock. “It really is a fit-and-forget piece of equipment, very reliable, very easy to maintain when required, which is minimal to say the least. Blackmer is the most common cargo pump in use in the UK today for LPG delivery and I would say Blackmer pumps are fitted to 90% to 95% of the UK mini-bulk or bobtail LPG delivery-truck market.”

Blackmer LGL pumps are ideal for LPG transfer because they feature a cavitation-suppression liner that reduces the noise, vibration and wear that can be caused by entrained vapors. Their sliding vane design also gives them excellent self-priming and dry-run capabilities. Blackmer offers its LGL pumps in four sizes, from 1" to 4" (24 mm to 102 mm), and all LGL models are UL-listed for LPG service.

The operation of the Blackmer/Flowcom 2000 delivery system begins when the driver initiates it from a control box at the back of the vehicle. At that time, the prop-shaft-driven Blackmer LGL pump moves the LPG through a delivery line to a gas-bubble sensor that checks for pockets of air in the LPG. From there, it moves through a temperature probe that, if necessary, converts the temperature of the LPG to 59°F (15°C). Then it’s on to the Flowcom 2000, which creates a restriction in the line that builds pressure, high before the



Since 1984, Flogas has been operating a fleet of LPG tankers that makes deliveries to bulk customers while also offering cylinder-filling services at its network of LPG depot terminals.

venturi and low after the venturi. A Differential Pressure Transmitter then converts the pressure into a 4-20mA signal that is sent back to the control box where the driver can read the measured flow in volume or mass.

Satisfaction Guaranteed

Another of Meller Flow Trans' long-standing relationships in the UK LPG industry is with Flogas, Leicester, United Kingdom, which Meller has been providing LPG equipment to for more than 30 years. Flogas entered the UK's LPG industry in 1984 with the acquisition of Portagas and has grown to the point that it now has LPG-delivery operations in the European countries of Ireland, Northern Ireland, Sweden, Norway, Belgium and The Netherlands. In the UK, Flogas operates a fleet of LPG tankers that makes deliveries to bulk customers, while also offering cylinder-filling services at its network of LPG depot terminals.

"At the Flogas site in Leicester, we've got a wide variety of customers, cylinders, bulk, we do commercial bulk customers, a lot of dealers that do a lot of business for us," said Gary Rolfe, Depot Manager at Flogas' Leicester LPG terminal. "We have more than 100 mini-bulk trucks in the company and have been putting on a stronger, better metering system on the trucks. The Flowcom 2000 meters are certainly reliable, faster and a lot easier for our drivers to use. The whole process



is a lot easier than what we used to have, which makes it much simpler and easier for all parties involved."

One of those parties is Paul Ward, who is on the front lines every day as a Mini-Bulk Delivery Driver for Flogas. He has nothing but rave reviews for the LPG-delivery system featuring Blackmer LGL pumps and the Flowcom 2000 flow meters.

“It’s good to know that when I set off on my deliveries in the morning that the pump isn’t going to cause me any problems and that I can make my deliveries efficiently and safely,” Ward said.

Flogas’ mini-bulk trucks are equipped with a Blackmer LGLD2E pump (2"/51 mm) and perform hose-reel deliveries through 130 feet (40 meters) of hose at a flow rate of 53 gpm (200 L/min). On its larger bulk-delivery semi-trailers, LGLD4B pumps (4"/102 mm) are used with the capability to achieve flow rates as high as 185 gpm (700 L/min).

Conclusion

The heartbeat of any delivery fleet is just that: the ability to reliably make deliveries. So, when trucks are sidelined because of equipment breakdowns, the fleet’s entire operation suffers, mainly due to decreased customer satisfaction and a corresponding loss of reputation. The LPG market in the UK, thanks to the dogged efforts of Meller Flow Trans, has found a next-generation solution to the problem of keeping LPG-delivery vehicles on the road in the form of a product-transfer and metering system that features Blackmer LGL Series Sliding Vane Pumps and Flowcom 2000 Flow Meters.

“What we have with the Blackmer cargo pumps and Flowcom 2000 metering system is a very robust, very dynamic marriage of a system with no moving parts that we term to be the most reliable, cost-effective metering system available for road transportation today,” said Allcock. “The oscillating piston-type meters of many years ago still have a place in the world, but things have moved on. A pressure-differential system with no moving parts, nothing, literally, to go wrong from a moving-part perspective, brings together what we class as the future proof, and the future is now.”



After searching for a solution for more than eight years, Mark Allcock, right, Managing Director for Meller Flow Trans, was able to supply the team at Flogas – including Depot Manager Gary Rolfe, middle, and Mini-Bulk Driver Paul Ward, left, – with a reliable metering system featuring the Flowcom 2000 and Blackmer® cargo pumps.

About the Author:

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