

## **Fast fuel delivery achieved with rugged protection of metering equipment**

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**Tanker trucks delivering fuel need to quickly provide high-quality, accurate volumes of uncontaminated product. Automated metering and gauging equipment ensures an improved service for the customer and delivery company alike, but the electronic and pneumatic devices that control the flow demand protection. This equipment has complex installation needs, so a customised enclosure with high ingress and impact resistance is essential.**

For homes, farms and businesses that rely on heating oil fuel, the regular tanker delivery is a lifeline. This means that fuel delivery companies need to sustain a reliable service, providing an accurate volume of the right type of fuel - on time. To ensure productivity and efficiency, the fuel supplier also has to minimise the overall time required for delivery. Crucially, to supply the home or business owner with a quality oil, preventing fuel cross-contamination is also vital.

To achieve these demands, tanker delivery companies rely on metering and gauging fuel delivery systems, like those provided by MechTronic. The Leeds-based firm enjoys a strong market position thanks to its contamination-proof technology. A tanker truck's barrel can contain up to five different compartments, each potentially holding a different type of fuel. To prevent cross-contamination, MechTronic's self-draining manifold automatically empties before introducing a new product when a line change is required. MechTronic's system also features an automated barrel

follow-on, as well as a line change, that saves up to half the time of a regular delivery by removing the need for manual intervention by the tanker driver.

### **Customised housings**

MechTronic's truck-mounted fuel delivery systems comprise a variety of electronic components. This includes timer relays for hose rewind, through to a pneumatic control unit, an intelligent device that manages all the system's valves. As a result, this complex assembly must be integrated within a protective unit, the latest measuring 370mm wide, that can securely and efficiently house the various components and cabling. This type of enclosure design can require up to 26 exit/entry points for pneumatic bulkheads, plus a cable gland point for the power cable.

MechTronic has worked with enclosure manufacturer Spelsberg for over 18 years to provide the heavy-duty industrial housings it needs. Spelsberg includes an in-house design team, as well as a CNC capability, that enables it to tailor customised design requirements to secure MechTronic's various metering and gauging components.

To develop a customised enclosure, typically Spelsberg's engineers make a site visit, and then create a prototype to test. Given MechTronic's long relationship with Spelsberg, combined with their own engineering experience, the latest development could take place remotely.

Simon Haigh, Technical Director, MechTronic explains: "In the case of our pneumatic controller, I provided Claire at Spelsberg with the required internal dimensions, who in turn gave me the relevant format CAD file. I then inserted the relevant drill points, as well as the requirements for printing on the outside of the enclosure. Spelsberg completed the CNC work within two days and returned the prototype to us for testing."

Driving down pot-holed farm tracks and remote country lanes in mid-winter means that despite the high volume of entry and exit glands, the enclosures have to resist all weather conditions, as well as vibration.

### **Rugged enclosures**

“We use Spelsberg enclosures with a high impact resistance and a high IP67 ingress protection rating, which is also maintained at the entry points through cable glands,” says Simon. “The trucks are often cleaned with a high-pressure jet wash as well, so the enclosures have to be able to withstand this. Our equipment is also exported to countries including the Ivory Coast and Kenya, so it’s designed to deal with virtually all climates.”

Spelsberg constructs its enclosures from polycarbonate, a high-strength plastic, which provides further advantages for MechTronic. “Not only are the polycarbonate enclosures extremely durable, they’re also a lot lighter,” says Simon. “Ultimately, a lighter truck is more efficient and can carry a higher payload, which increases productivity for the fuel supplier.”

### **Premium reliability**

MechTronic supplies its gauging and metering equipment to between 170 and 210 trucks a year. As well as supplying the home oil heating market, the company also supports the petrol and diesel artic delivery sector, as well as LPG, and uses Spelsberg enclosures throughout.

“We are the leading manufacturer of fuel metering systems in the UK, and we work with the best suppliers,” says Simon. “We do this to maintain a premium product, that is highly effective and reliable, and it has to last. In the UK alone, our systems are fitted to over 1,700 trucks, so we have to know that they are protected. This is why we partner with Spelsberg industrial enclosures.”

**Image captions:**



**Image 1:** MechTronic's truck-mounted fuel delivery systems comprise a variety of electronic components.



**Image 2:** MechTronic's truck-mounted fuel delivery systems comprise a variety of electronic components.



**Image 3:** Spelsberg constructs its enclosures from polycarbonate, a high-strength plastic, which provides further advantages for MechTronic.

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## About Spelsberg

Spelsberg is one of the largest manufacturers of electrical enclosures in the world. With over 4,000 enclosures available as standard and further customisation possible, it offers solutions for almost any application.

With the largest supply of non-metallic enclosures, ex-stock in the UK, its products are often available for delivery within 24 hours; customisation is possible on any product, including bespoke entries, engraved corporate logos or fitted terminals, within 48 hours. Products can be ordered direct from Spelsberg or from most leading supply specialists including RS, Rapid, Farnell and CPC.

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