

Weigh to go

Paul Argent looks at the installation of the latest load weighing system to be sold in the UK market.

With production costs rising, fuel costs and tax increases virtually every month, plant operators are looking to become as efficient as possible. How these efficiencies are made varies with the men, the machinery and the type of operation.

Time is one such saving that can be made in a variety of ways. One contractor has taken this on board, running a wheel loader on long-term rental in a bid to cut double handling and ensuring accurate weighing of materials prior to trucks leaving the site.

A Loadrite Express on-board weighing system from Halomec has been fitted to this Liebherr L586 wheel loader working at the Ystrad Meurig L586 wheel loader near Aberystwyth.

Robin Jones and Son from Llandudno Junction has taken a Liebherr L586 2plus2 wheel loader from Liebherr Rental for the handling of rock armour for a coastal protection scheme in Aberystwyth. Based at the Hanson Ystrad Meurig quarry above the seaside town, the Liebherr will be loading flatbeds and pulling the armour stone from the face ready for a Komatsu PC340 equipped with a Geith rock grapple to load tipper.

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Halomec business profile

Gloucester-based Halomec offers a number of services to make plant and machinery safer and more productive. Not only do they supply the Loadrite weighing system but they also offer an automatic lubrication system from Lincoln and a CCTV system from Alphaview. Halomec MD Julian Athawes claims the company, launched in 2009, is not just about the products, commenting, "We are committed to giving a level of service and technical support that delivers real customer satisfaction, safeguarding against machine downtime and protecting the bottom line."



A rotary trigger monitors the angle of the arms and transducers measure the hydraulic pressure, the data being available in a number of media including the control screen.

Accurate weighing is the main part of this operation as, once the trucks are loaded and have made their way to the site's weighbridge, any overweight trucks are unable to make it back up the quarry's steep internal haul roads to be unloaded. The Komatsu PC340 is therefore required to track down the site to reload the trucks, wasting precious time and money.

A variety of load weigh systems are available on the market for wheeled loaders, but Liebherr Rental has opted to install a Loadrite Express system, supplied by Gloucester-based Halomec, on this and three other loaders, offering its customers a top-end, versatile and highly accurate system.

Working on the pressure from the loader's lift arms, the Loadrite system constantly monitors the pressure on the hydraulics and therefore accurately calculates the weight in the bucket. Such is the accuracy of the system that the load weights can be calculated as the machine is travelling.

The system consists of a rotary trigger situated on the loader's arms, which

continuously monitors the angle of the arms. Dual pressure transducers are mounted on the loader frame and these continuously measure the hydraulic pressure on both sides of the lift cylinders. By continuously measuring arm angle and hydraulic pressures, the weighing system can build up a very accurate picture of the weight in the bucket.

Snapshots of this weight can be taken at up to four different places, enabling very accurate weights to be established. Complex signal filtering further enhances the weight reading and helps to smooth out any erratic hydraulic signals caused, for example, by machine bounce.

Loadrite incorporates a tallying system to add up the total weight being loaded on to a truck and with a touch of a button on the in-cab monitor the total weight of a given product can be totalled up over the day, week or month. This will give the quarry manager a precise amount to correlate with weighbridge readings to form a definitive list of materials moved from the quarry. There is an

option of a remotely mounted button for the weight calculation system. This option can be mounted on or near the loader control to enable the operator to keep his hands on the levers at all times.

The system also features an auto target function, which means the operator can recall a particular vehicle's maximum load weight and, from the memory, tie this in with the ability to recall three data lists of up to 150 items on each. It then has the ability to load and process the information from the largest of stockyards. In-cab ticket printing and full data download with comprehensive data management are also available.

While the application at Ystrad Meurig will be large stones, loading such materials as clay, soil and other cohesive materials can cause problems with a weigh load system, tricking it into thinking materials have been tipped when they are sticking to the corners of the bucket. The Loadrite Express system eliminates this problem by having a zeroing feature to avoid inaccurate readings.

The interface between the system and the operator is via a simple console mounted to the operator's right-hand side. A two-line LCD display shows the operator the necessary information and prompts the operator to enter the relevant product data.

As the ultimate time saving addition, Loadrite can be configured to work with two attachments. Builders' merchants would benefit from this system using the application with a bucket for loose materials and forks for palletised items.

It is easy to see the benefits of operating a wheel loader fitted with the Loadrite system, especially in remote working areas without access to a weighbridge.

Whether the national quarry operators will be tempted to part with their money to equip their vast fleets of wheel loaders is yet to be realised, but putting the system on new machines entering service will guarantee savings in both time and money.