

Silo-weigh™ System comes through with ‘flying colours’ at Salt Union

AV Technology’s unique Silo-weigh™ system has successfully completed a rigorous 12 month trial on a 350 tonne salt storage silo at Salt Union’s Runcorn plant.

Unlike traditional load cell weighing systems, the Silo-weigh system can be installed on a wide range of concrete and metal structures including skirted silos. Such retrofit systems use sensors to measure the changes in strain levels of supporting legs or other support structures. Simplistically they convert this part of the structure into a giant load cell.



Silo-weigh utilises vibrating wire gauges (VWG’s), which are normally used for civil engineering projects. These are fitted either to the outer surface of the silo or, in new installations, can be actually moulded into the concrete structure when it is being cast.

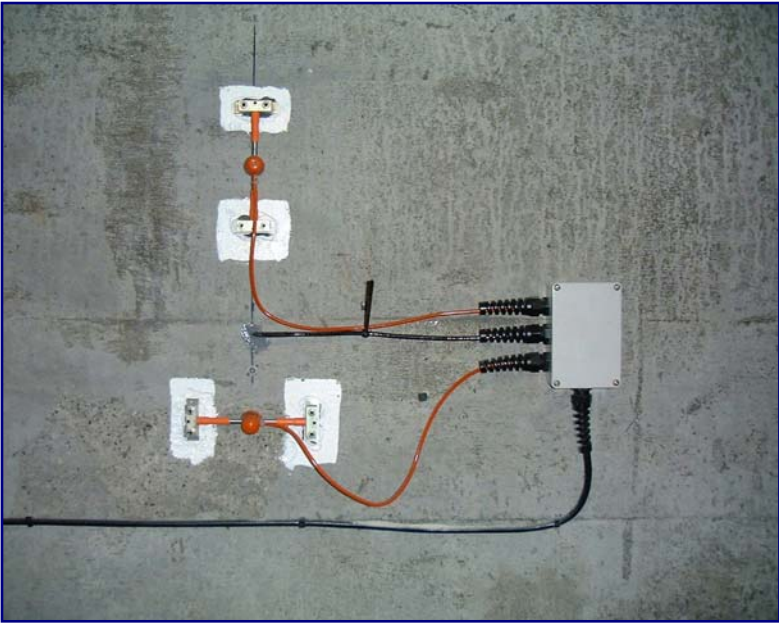
VWG sensors provide excellent long term stability and reliability. However, AVT are quick

to point out that they have no magic solution for dealing with the low and irregular strain changes that occur in structures.

However, their practical and logical approach is effective in minimizing inherent system anomalies and it is in the handling and analysis of data where AVT have been so successfully.

The main sources of error in retrofit systems are temperature, differential support deflection and structure interaction (cross talk). To overcome these traditional problems, Stockport based AVT have developed special compensation techniques which are effective in reducing these errors to acceptable levels. Rather than try to adopt standard weighing instrumentation, the company utilize a multi channel data logging system and standard read out unit.

The silos at Salt Union are built of concrete and have a split skirt which allows lorries to drive through to fill with salt. The company were initially sceptical of the claims made by AVT about the effectiveness of Silo-weigh. To overcome this, AVT installed the trial system on a 'sale or return' basis, monitoring the results on a regular basis. The VWG sensors are fitted around the side of the 600 mm thick split skirt on the silo and connected through to the multi channel data logger and read out unit.



Now, 12 months later, Salt Union are so pleased with the results that not only have they purchased the trial system, but have also placed an order for a second system for an adjacent silo.



AV Technology Limited
AVTECH House
Birdhall Lane,
Cheadle Heath
Stockport, Cheshire
SK3 0XX

Tel: 0161 491 2222 Fax: 0161 428 0127
neilparkinson@avtechnology.co.uk
www.avtechnology.co.uk www.silo-weigh.co.uk



AV Technology is part of the IONIX group of companies, providing specialist support services. We operate an ISO 9001: 2000 QA system and apply a strict health and safety policy.

