



silo-weigh

ADVANCED MONITORING FOR EFFICIENT
INVENTORY CONTROL

- *Retro-fit onto Existing Silos*
- *Accurate Silo Weight Measurement*
- *No Plant Shutdown during Installation*
- *No Structural Modifications*
- *Steel or Concrete Silo Structures*
- *Complete 'Turnkey' Installation Service*
- *Cost Effective Alternative to Load Cells*

AV Technology's unique retrofit Silo-Weigh system – Advanced monitoring for efficient inventory control.



AV Technology (AVT) is a test and measurement consultancy established in 1976 and specialising in the fields of: structural, process, noise, vibration and condition monitoring.

We operate an ISO 9001:2000 approved QA system and apply a strict health and safety policy. AVT is part of the Ionix Group of companies

INVENTORY CONTROL

To address the needs of our clients and drawing on over 20 years structural monitoring experience, AVT has developed a unique retrofit weighing system for inventory control applications.

The **Silo-Weigh** system uses strain gauges and temperature sensors installed onto all silo supports and cabled to a Control Unit, which calculates silo weight and provides various electronic output and visual display options.

Adapted for both steel and concrete silos, with options for most support types, AVT's **Silo-Weigh** system uses specially developed techniques to accurately measure strain levels in existing silo supports with an overall system accuracy of typically 1 - 5% of full scale, ideal for most inventory control applications.

The **Silo-Weigh** system is a fully fitted working weighing system, including full installation, commissioning, calibration and support, which converts existing silo supports into high performance load cells.

SYSTEM BENEFITS

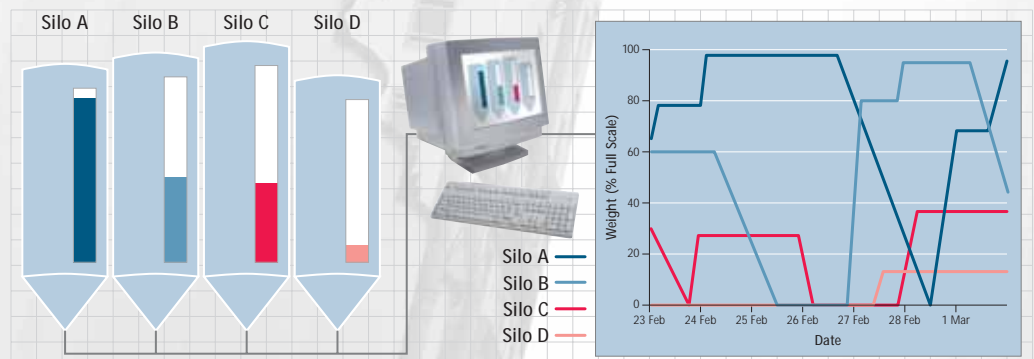
By knowing the contents of your silos at all times, operators could benefit from the cost savings afforded by efficient inventory control, including:

- On-line monitoring to ensure continuity of production
- Low level alarms to trigger re-ordering of material
- High level alarms to prevent over-filling
- Optimise stock levels to operate a 'just-in-time' strategy
- Utilise spare capacity to optimise transportation and logistics

SILO-WEIGH SYSTEM OVERVIEW

The **Silo-Weigh** system comprises the following:

- Sensors
- Control Unit
- Display & Output Options
- Installation
- Calibration
- Support





SENSORS

Strain gauges and temperature sensors are installed onto all silo supports and cabled to a nearby Control Unit.

- Strain sensors developed for high stability 'low strain' applications
- Completely waterproof and protected against corrosion, thermal radiation and mechanical damage
- Multiple sensors per silo, configured to automatically cancel out local thermal and wind loading effects
- Additional temperature sensors to enable further thermal compensation where necessary

CONTROL UNIT

The Control Unit computes silo weight as a function of measured strains, whilst performing automatic temperature compensation and system calibration

- Capacity to store over 1 million weight readings, enabling retrospective calibration and weight trending
- Multiple silos can share a single Control Unit, each with individual weight outputs
- Control Unit can be sited hundreds of metres away from the silos

DISPLAY AND OUTPUT OPTIONS

- Analogue 4-20mA (or 0-5V) output signal
- RS232 digital output options
- Local and remote digital LED display options
- Remote PC monitoring via cable or GSM modem
- Short haul modem link to PC
- Historic weight trend information (e.g. Microsoft Excel format)
- Ethernet PC network option
- High and Low Level alarm options

SYSTEM INSTALLATION

The Silo-Weigh system is supplied as a complete package to provide a fully installed and calibrated working system. The installation of strain gauges for the accurate long-term measurement of very small strains is a highly skilled operation, which can only be performed by AVT's own professional engineers, certified by the British Society For Strain Measurement (BSSM)

SYSTEM CALIBRATION

Each Silo-Weigh system is individually calibrated 'in-situ' by the addition (or removal) of known weights of materials, normally with reference to a vehicle weighbridge

SUPPORT

AVT offer full after sales support, including the following services:

- System enhancements (e.g. additional alarms, outputs or displays)
- System expansions
- System re-calibration and re-zeroing
- Support and trouble-shooting

PURCHASE OPTIONS

AVT offer many unique purchase options for weighing systems, including:

SALE OR RETURN

EVALUATION OPTIONS

In many cases, AVT offer options for customers to evaluate a system over several months and if you are not totally satisfied we will remove it.

CONTRACT HIRE OPTIONS

If capital expenditure is a problem you can take advantage of our Contract Hire Options, whereby we will install and fully maintain a working system and you simply pay a monthly fee to enjoy the benefits of on-line silo weight monitoring.

PURCHASE OPTION

Alternatively you may prefer to simply purchase the system as capital expenditure, in which case you will still enjoy AVT's after sales technical support, with maintenance options.

FULL FLEXIBILITY

Other options exist to meet most requirements. For example:

- Conversions from Contract Hire to Purchase options
- System expansion and upgrades
- System transfers onto other silos

To find out how AVT can create a competitive advantage for your organisation please contact us on:

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