

Continuous level indicator system for hot aggregate bins

The ED200 system delivers real time bin level information for the full height of the bin. An innovative bin profiling feature overcomes the non linear shape of the bin to give a more accurate level reading for bins of all shapes and sizes. Robustly constructed sensors designed to withstand constant impact and high temperature are contoured to fit the shape of each individual bin, giving you a reading to the very bottom of the bin, allowing you to manage the material levels to reduce clean out waste to a minimum.

An operator interface displays the bin levels in the form of an easy to read bar chart, each bar is calibrated to the individual bin capacity to give a real time level reading in tonnes and percentage. When switching between aggregate types during production the operator can select the aggregate in use and the system automatically re-calibrates to take into account the change in material density, giving you the most accurate reading possible for all material types.

Features

- Robustly constructed sensor channels need no maintenance
- Individual bin profiling - for accurate level measurement in non linear bins
- PC operator interface with:
 - Easy to read bar chart display showing tonnage and percentage figures
 - Multi aggregate calibration feature - switch from hard stone to limestone for a more accurate level reading
 - Option to display stone temperature readings
 - 4-20mA/0-10v interface for forward connection to a PLC
- Safe to weld switch - isolates indicator electronics to prevent damage during maintenance
- 5 year sensor wear guarantee



Benefits

- The ability to optimise cold feed settings to reduce bin starvation and maximise plant throughput
- Reduce fuel consumption - heat only the stone you need
- Reduce waste - smaller clean outs mean less airborne dust
- Makes training new plant operators easier
- Speedier mix changes and shorter shut down times reduce general plant wear and tear
- Short pay back time - nine months on a typical six bin plant

5 year wear guarantee

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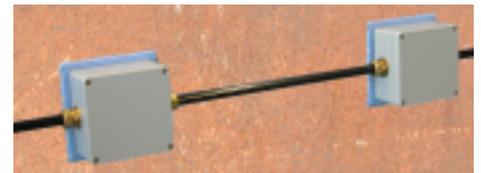
Sensor construction

Each level sensor is made from robust steel channel with welded gussets, which form dead boxes to trap the falling stone, thus impact is mostly stone on stone, so extending the life of the sensor. The sensor channel is shaped to follow the contour of the bin, and held a fixed distance from the bin wall by mounting pillars, which electrically isolate the channel. These pillars are protected from wear by inverted angles, both pillars and angles being welded to the bin wall.



Electrical connections

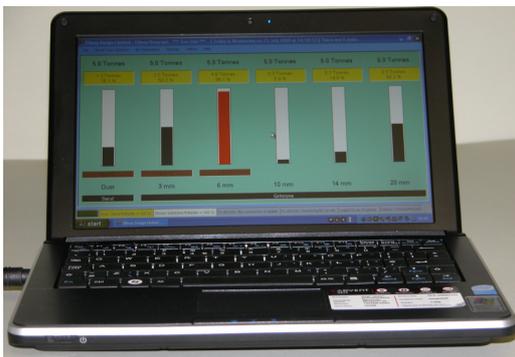
Electrical connections to the sensor channels are made with aluminium die cast boxes mounted on the outside of the bin wall, or on the bin top plate. For each through box a 90mm hole is cut in the bin wall, and a mounting plate welded in position over the hole, the through box is then bolted to the mounting plate. An M10 rod, mounted on insulators in the bottom of the through box takes the electrical signal into the bin. Connecting wires from the through boxes to the measuring electronics are routed inside steel conduits for protection.



Signal output

An amplifier enclosure* mounted on the plant near to the hot aggregate bins contains a separate amplifier for each bin. Each amplifier applies a low voltage to the measuring channel, measures the current taken, and outputs a signal to the bar graph instrument. The current taken by the measuring channel is proportional to the level of material in the bin.

PC operator interface



Bin level information is displayed in the form of a bar chart with tonnage and percentage figures. The 0.5% bar chart resolution gives a smooth real time level reading for all bin shapes and types of materials. With a comprehensive range of parameters the system can be individually configured to suit your plant, giving you the most accurate level reading possible. Where temperature probes are fitted the readings can be displayed beneath their corresponding bins.

Connecting to an existing plant control system mimic

0 - 20mA, 4 - 20mA, or 0 - 10v signals are provided as standard for forward connection to a PLC. The existing control system may require additional input cards and/or additional software to display the bin levels.

Sensor operating temperature - up to 250°C