



Case Study: Bizerba Puts PCE Instruments' Datalogging Vibration Analyzer to the Test

About Bizerba

For generations, the name Bizerba has been associated closely with the topic of weighing. Bizerba offers a unique and comprehensive portfolio of high-quality weighing products and solutions, including hardware, software, consulting services and equipment leasing options for industrial cutting, processing, weighing, cashiering, testing, commissioning and labeling.

Since 1866, Bizerba has been a leading innovator and manufacturer of weighing technology. Today, Bizerba is present in 120 different countries. From big retailers to butchers and bakers, Bizerba serves a variety of customers and industries worldwide.

Bizerba, a privately-held group of companies headquartered in Balingen, Germany, has approximately 3,400 employees. The company's manufacturing facilities are located in Germany, Austria, Switzerland, Italy, France, Spain, China and the US.

The Scenario

Bizerba's checkweighing scales are designed for optimal quality assurance of pre-packaged, portioned food. The checkweighers control the packing flow as well as classify and sort goods according to freely defined or legally prescribed weight classes. Production data is available in print and digital formats.

Bizerba's fully automated weighing systems often are deployed onsite at customer facilities and subject to harsh operating environments. One key environmental concern is ground vibration.

If vibrations occur at the weighing spot (especially slow vibrations, for example at 5 Hz), the vibrations can affect the scale's weighing functionality and influence the weight results.



*Sample Bizerba checkweighing scales with a minimum resolution of 0.2 g
and a maximum load of 1.5 kg*



The Objective

Bizerba needed a device capable of measuring and recording the kinds of vibrations, or low-range G-forces, that could impact the performance of their checkweighing scales.

The Solution

Bizerba took PCE Instruments' PCE-VM 40B datalogging vibration analyzer to a customer facility where a checkweighing scale was displaying imprecise weighing results. The scale was experiencing temporal disturbances in the form of weight fluctuations, but the origin of these disturbances was unclear. The weight fluctuations could have been caused by the voltage supply, internal electronics or mechanics, software, air, wind or vibration of the ground.



The PCE-VM 40B vibration analyzer with SMS alert functionality and an internal memory for storing up to 100,000 readings

Per Bizerba, operation of the PCE-VM 40B vibration analyzer was no problem at all. The instruction manual made things very simple. In addition, PCE Instruments' product support team was available via telephone if any questions had arose. However, the functionality of the PCE-VM 40B vibration analyzer was more or less self-explanatory, so no technical assistance was needed.

The software, used to transfer the recorded measurement data from the vibration analyzer to a PC, was easy to find (online at www.pce-instruments.com), download and install.

The Results

50 Hz vibrations on the scale's center rig were measured very well by the PCE-VM 40 B vibration analyzer. The influence of a vibrating trough, used sporadically and vibrated at 15 Hz, also was well documented. Even the spread of this 15 Hz oscillation could be tracked from the grandstand until it was no longer measurable at a distance of approximately 4 m.

Unfortunately, the slow and weak ground vibrations at 5 Hz could not be measured on the concrete floor.



Contact Information

For more information about PCE Instruments and its products and services, visit www.pce-instruments.com or contact:

PCE Americas Inc.
711 Commerce Way
Suite 8
Jupiter, FL 33458 USA
Email: info@pce-americas.com
Phone: +1 (561) 320-9162

PCE Instruments UK Ltd
Units 12/13 Southpoint Business Park
Ensign Way, Southampton
Hampshire, United Kingdom, SO31 4RF
Email: info@industrial-needs.com
Phone: +44 (0) 2380 987 035