

**Emery
Winslow®**

Boars Head Provision Co.

Meat Processor • Application Report

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Hydrostatic load cells withstand tough meat plant environment

As most food and—especially—meat processors know, harsh washdown conditions ravage electronic components. It is not uncommon for an electronic floor scale or hopper scale to require frequent load cell replacements during the course of a year. Hydrostatic load cells, manufactured by Emery Winslow Scale Company (Seymour, CT) are non-electronic and impervious to water damage. The company offers a lifetime warranty against water and electrical damage. It was this guarantee that initially attracted Boars Head Provisions to the technology.

Boars Head Provisions is a family-owned further processor of premium quality ham, turkey, hot dogs and assorted deli meats. The company uses dozens of scales to consistently maintain proper meat blends in its Brooklyn, NY and Jarratt, VA plants. Hydrostatic load cells were installed under the pickle tanks and mixers and also in numerous floor scales and bench scales.

"I would not put electronic load cells into any meat plant. The water wreaks havoc with them, even hermetically sealed ones. A load cell failure would really mess up our production, and down-time is very costly," says Mike Martella, director of operations for Boars Head.

The Emery Winslow model 709 pit scales at Boars Head, installed flush with the floor, vary in size and capacity. Some are used in shipping and receiving, while others pre-weigh rolling vats of product before they are dumped into the mixers and grinders. Some processors shy away from pit scales because electronic load cells are easily damaged by water and flooded pits. The Emery Winslow pit scales at Boars Head occasionally do get flooded, but the hydrostatic load cells remain unaffected.

The load cells operate on a very thin film of oil, with no pumps, valves or reservoirs. It is a closed system, similar to the brakes in an automobile. A weight applied to the cell creates an extremely accurate and linear pressure signal, which is transferred through very strong capillary tubing to a summing totalizer. This device is housed in a protective enclosure and converts the pressure signal to millivolts for operation of standard digital indicators and instrumentation. A standard indicator is housed inside an additional non-metallic enclosure for double protection against wash-down and condensation. All sensitive electronic components have been removed from the area of greatest danger and abuse.

"On the rare occasions when we severely overload a cell, it was simple for our own people to replace the diaphragm and be back and running. "We didn't need to recalibrate, because we were still using the same load cell," notes Martella.

The hydrostatic load cells are constructed of grade 304 stainless steel for corrosion resistance. Electronic cells cannot be made from 304 because it is not a hardenable material. Emery Winslow load cells are more expensive than electronic, but Boars Head was not dissuaded by the price. Says Steve Valesko, facilities manager for both plants: "We get the price difference back many times over in the form of dramatically reduced down-time, fewer repairs and no replacement load cells. That helps us keep our process running dependably and consistently, and that helps make us more competitive."

Pit scales at Boars Head Provisions are frequently subjected to harsh conditions, but because electronic components are in a different location, operations are not affected.

(Source: Emery Winslow)

Original magazine photos unavailable, but photos below are similar.



Emery Winslow Scale Co.

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