



Case Study:

Thayer Scale Ice Batching Scale Providing Accurate Delivery of Ice for Over 45 Years

Background

Commercial and small fishing vessels require ice to reduce spoilage at all stages in the catching process. Depending on a vessel's size, it can carry a load of 5-60 tons of ice. Crystal Ice Co, Inc. knows the fishing industry. Established in 1957, the company's manufacturing facility located in New Bedford, MA, has primarily served the New England fishing industry.

Crystal Ice is one of the largest producers of ice in North America. The facility can manufacture over 500 tons of block and fragmented ice daily and could typically sell 400 tons on any given day. Beyond the fishing industry, their product is used extensively in numerous other segments around New England.

The company blows ice via a pneumatic system directly into fishing vessels. Crystal Ice sells its ice to the fishing companies that sell their catch to major fish supply houses that then ship the seafood via local transportation companies to customers around the country. They also have an external chute at the end of a screw conveyor that carries crushed ice outside of their facility and load directly into trucks to deliver the product to customers of all sorts.



Built to Survive

The facility houses several ice-batching scales, including four Thayer Scale Model S weigh belts; one installed in 1970, one in 1978, and two in the 1980s. Currently all of the units are in operation and apart from replacing the conveyor belt on each of the units, and normal routine servicing, they have had little maintenance since start-up.

The Thayer Scale Solution

"Thayer Scale's weigh belts are Built to Survive, and the installation of four units running for decades at Crystal Ice is a testament to the high quality of manufacturing and consistent accuracy we deliver," said Peter Sirrico, North American Sales Manager Thayer Scale.

The photos show two, Thayer Model S-24T units, one purchased in 1970 and the other in 1978. The latter machine was operating with its original instrumentation and mechanical totalizer until February of 2021. A newer instrument, the Thayer Scale S5200 integrator recently replaced the older equipment. The Series 5200 has a next-generation operator interface for controlling and monitoring any type of process weighing and flow control equipment. Crystal Ice typically runs a good steady flow of 25 tons/hour of blown ice over the weigh belt and the 5200 totalizes the weight as the ice moves across the conveyor belt and scale. The system replacement was a proactive measure to upgrade the system, and was not due to a failure of any kind.

"Crystal Ice installed Thayer Scale's weigh belts from the beginning. The S-24T ice systems have been running consistently for decades throughout the Northeastern US and have a reputation for long life, reliability and accuracy," said Rob Hicks, Plant Manager at Crystal Ice.

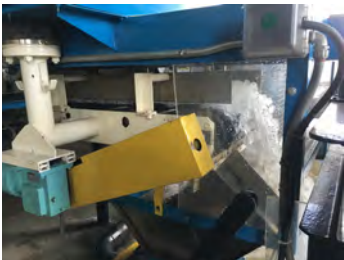
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The S-24T Model

The Thayer Scale S-24T model weigh belt is exceptionally rugged and highly accurate. It can be customized in many ways to meet a customer's unique design requirements. Its simplified construction and calibration result from suspending a complete fixed speed conveyor from a Thayer Flexure Scale. The S-24T unit adapts well to existing vibratory, screw or belt conveyor installations where



weight measurement and/or flow control are needed. Combining a suitable pre-feeder and a Type S unit on new installations typically proves the best approach considering both cost and material handling requirements. For decades Thayer Scale has provided the Model S weigh belt for batching systems that handle everything from rock wool, aluminum chips, hot rubber extrusion, glass cullet, ice, Dolomitic lime, sand and petroleum coke. These weigh belts batch material into fishing boats, glass making processes, smelters and foundry hoppers in addition to providing precise delivery of products in loadout applications for rail and truck.

The S-24T weigh belt incorporates Thayer Scale's patented precision flexure plate suspension scale with FMSS technology. The scale provides total mass counterbalancing of the conveyor's dead load, permitting the load sensor to react only to the net material load. This unique system is not affected by dirt, shocks or vibration, and can withstand overloads above 1,000 pounds without causing damage or affecting calibration.

The conveyor on the weigh belts is heavy-duty construction, employing standard industrial idlers and pulleys. Conveyor belting is endless and generally furnished with a molded edge flange. Side skirts eliminate side spillage. Load measurements are not affected by the belting's physical characteristics and supporting means (belt stiffness, sliding friction, belt non-uniformity, splice effects, tension/misalignment interaction) because the entire conveyor is weighed. Belting construction and its material are chosen based on durability and belt-tracking ability without concern for accuracy compromise. The unique cantilevered conveyor support makes it possible to replace belting without dismantling the conveyor.

Another Successful Installation

Another New England installation for Thayer Scale is a system that has been in operation since 1984 at Vessel Services at the New Portland Fish Pier in Portland, ME. There are two units in service at this facility. We plan to upgrade the integrated instrumentation for the second time in 37 years on the original batch setting equipment soon," said Mike Foster, Plant Manager at Vessel Services.