

Case Study:

Built to Survive: A 1984 Weigh Belt Feeder

Case Study Snapshot

We live in a world of continual improvement and gratification. For many of us, our personal and professional lives focus on acquiring brand new products and services to attain heightened benefits; often, this means rendering existing, well-functioning solutions obsolete at great expense not only to ourselves and our companies, but to the environment. Many manufacturers, both consumer and industrial, design products for the short term and count on obsolescence to drive future revenue.

Thayer Scale's mission juxtaposes this commonly-accepted business practice, as this case—which centers on equipment still in use after thirty-four years—illustrates. Since our company's founding seventy years ago, two missions have guided our strategy:

- **Lasting Quality:** Our company motto is "Built to Survive" and often, our durable, high-quality products (and the process lines in which they are installed) last decades.
- **Outstanding Service:** We extend our products' long lives through exceptional and cost-efficient service.



Background: The Ripple Effects of Product Expansion

In 1984, a large chemical company expanded its product line. At the company's 2,400-acre manufacturing facility, located in Chocolate Bayou, TX, plant managers grappled with how to meet the expansion's new requirements. They needed to find a way to add precise, measured amounts of fine powder into their existing chemical processing line.

One option for the company was to add a completely new exterior line specifically designed for fine-powder processing. However, this path would consume significant economic and operational resources. Managers predicted that not only could equipment costs reach \$1,000,000, but that additional expenses related to maintenance, parts, and floor space could be incurred.

A second, more economical option for the company was to purchase a highly precise weigh belt feeder, one that could be added to the existing product line. Yet, for a company that estimated its line would process four hundred tons per week of fine powder, this solution carried significant risk. Could third-party equipment handle this volume, and feed fine-powder precisely, accurately, and reliably enough to meet internal and regulatory standards? If not, the company could face reputational brand damage for making off-spec product.

Initial Outreach to Thayer Scale

Positive firsthand experience with Thayer Scale's volumetric screw feeders and Bridge Breaker® flow aids led plant managers to approach Thayer about an additive weigh belt feeder. Could Thayer's solution, they inquired, support continuous, high-volume flow of fine powder for a plant that operated twenty-four hours per day, five days per week? How much downtime would installation incur?

Thayer's Proposed Solution

In response to the company's inquiry, Thayer Scale recommended its MXL-13TM-I weigh belt feeder, a solution offering:

- Low cost: At \$20,000 (in 1984), Thayer's equipment was a fraction of the exterior-line option's cost.
- High accuracy: The MXL-13TM-I weigh belt feeder guaranteed measurement accuracy within $\pm 0.25\%$ (amounting to ± 1 ton/week), compared to the chemical company's existing volumetric feeder which guaranteed $\pm 2\%$ (amounting to ± 8 tons/week) based on a fixed material density.
- Return on Investment (ROI): If Thayer Scale's additive feeder functioned properly, the chemical company estimated it would achieve a return on its additive weigh belt investment within one to two years.

Timeline



Sustaining A Long-Term Relationship: 1984–2019

The early conversations revealed Thayer Scale's commitment to product quality and customer service, and the chemical company purchased the MXL-13TM-I. Little did they know that after a seamless installation, the equipment would operate consistently, with only standard, routine maintenance, for thirty-four years (achieving ROI thirty-four times over). In the words of the chemical company's maintenance manager, "[the equipment] just ran." He was so happy with the original equipment that, when presented with performance upgrades or enhancements, he elected not to participate.

Over time, Thayer Scale's service engineers worked remotely with the plant's maintenance staff to maintain the original equipment. At first, they communicated the old-fashioned way, through telephones; later, emails and digital photos contributed to remote maintenance efforts. The company has ordered no new parts for the equipment since 2007.

2019: The End of an Era

In 2018, the chemical company decided to shut down its processing facility in order to replace the building and equipment entirely. About two months before the planned shutdown, the MXL-13TM-I—after thirty-four years in operation—failed.

The chemical company contacted Thayer Scale—could they help to fix the original equipment so that it could function for just two more months? By emailing photos and repair direction, Thayer collaborated remotely with the on-site repair staff. Together they fixed the equipment so that it could operate flawlessly until the plant's closure in 2019.

"[Thayer's service department] is a major asset to your company and was an enormous help to us. [It] was the sole reason we were able to get the equipment back up and running."

Company Plant Manager

Who We Are

Built to Survive

This case exemplifies how our company's motto, "Built to Survive," is embedded into our culture, our values, and our products. Our original product, operating continuously under harsh conditions, lasted thirty-four years—far exceeding expectations for ROI and product life cycle. Collaborative remote support and maintenance contributed significantly to the product's long and fruitful life.

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