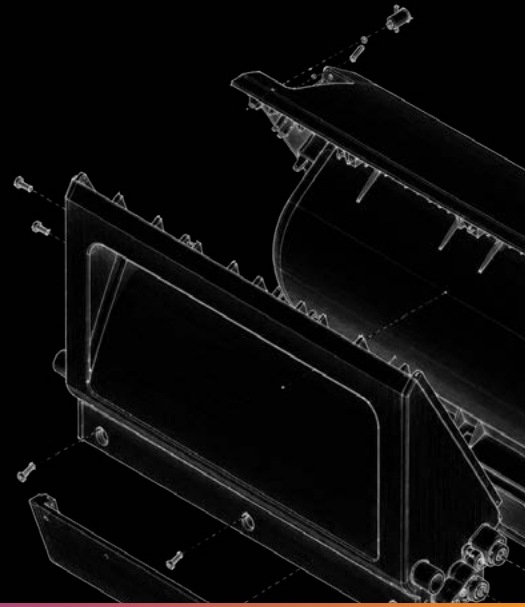


Case Study

Scaling the BB6: How Bigbelly Achieved Manufacturing Precision and Supply Chain Resilience with Prismier



The Partner

Bigbelly, an industry leader in waste and recycling solutions for public spaces specializing in high-end, smart waste compactors for municipalities and enterprise corporations.



The Pivot

A collaborative DFM shift from rotational molding to a modular injection molding design, resolving strict dimensional tolerance issues on the unit's critical waste interface.



The Challenge

To scale production of their next generation waste and recycling containers, Bigbelly needed a manufacturing partner capable of executing complex Design for Manufacturability (DFM), meeting strict environmental / safety compliance, and fortifying a streamlined supply chain for a significant percentage of their plastic and metal part numbers.



The Solution

Utilizing Prismier's Design for Manufacturability and Design for Assembly extensive knowledge, Prismier was able to deliver a robust tooling solution quickly that yields great looking parts and meets/exceeds the drawing requirements.



The Impact

Improved part quality, adaptable modular sub-assemblies, and a localized Vendor-Managed Inventory (VMI) system that greatly reduces Bigbelly's inventory burden.



The Challenge: Precision at Scale

Bigbelly produces waste management products that make our communities a little more pleasant and a lot more clean. An industry leader in high-end waste compactors, Bigbelly products help large organizations, such as municipal governments and enterprise grade corporations, manage waste in a smart, effective, and energy efficient manner.



CAD rendering of Bigbelly's flagship SenseMax.

Bigbelly's flagship product is the SenseMax, which on the outside might look simple, but its outward simplicity belies a staggering amount of engineering complexity within. Features ranging from cellular technology to notify the end customer when the container is full, solar cell / battery system to power the powerful compactor system, and a foot pedal / handle activated trash receptacle system to keep rodents / small mammals, pests, and birds out. Not only does all this functionality work together to

deliver a great user experience, it does this while looking good. Bigbelly products are well known for their pleasing plastic textures, appealing and durable parts, and high quality finishings.

In fact, Bigbelly products are so well known for their looks, that their Instagram account is filled with photos taken by fans of the product: https://www.instagram.com/bigbelly_community/

Because of this brand promise, Bigbelly knew they needed to get their search for a manufacturing partner

right. So when they were working on plans for their next generation several years ago, Bigbelly knew they needed a manufacturer who could do three key things: meet their exacting product standards, design for manufacturability and assembly assistance, and strengthen their supply chain.

According to John Morario, Senior Engineering Program Manager for Bigbelly, they found that partner in Prismier.

"We were looking for more of a partnership where we could really lean on some of their (Prismier's) expertise," said Morario of the next generation project. "We approached the Prismier team and said, 'hey, is this something you'd feel comfortable helping us push to the finish line?'"

John went on to explain Bigbelly didn't just need a vendor for the next generation products; they needed a collaborative engineering and supply chain partner to help improve both the product and the bottom line.

"We wanted one partner who could really be there for us."

That "one partner" of course was Prismier, and according to our own VP of Operations Dave Low, the fit couldn't have been better.

"Bigbelly is a fantastic company that makes a best-in-class product, and working with Bigbelly has been an absolute pleasure," he explained. "And Prismier's unique value proposition of taking a product from the design phase all the way to manufacturing at scale has worked out beautifully with Bigbelly."

The Pivot: Engineering the Waste Interface: The Rotational to Injection Molding Pivot

The first major test of this partnership centered on a critical DFM hurdle: the "waste interface" (the top assembly that accepts trash).

Initially, Bigbelly designed this massive component for rotational molding. However, as production loomed, they discovered significant limitations. For example, the rotational process couldn't consistently meet the strict dimensional tolerances required, and it also could not produce the intricate detailing necessary for honeycomb features and precise mounting points.

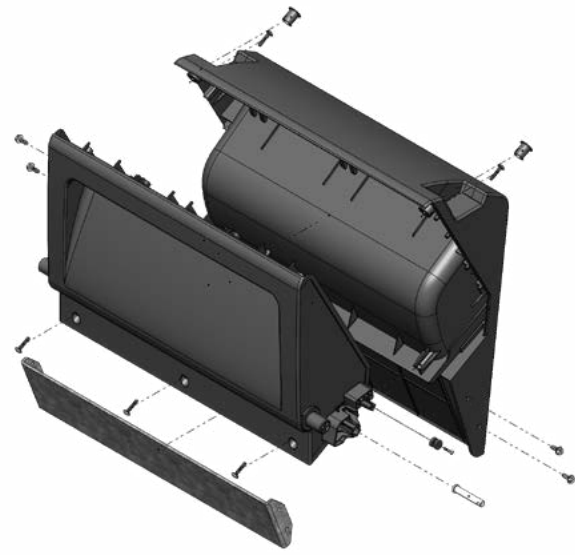


"Our tolerance requirements didn't match up with what rotational molding could achieve," said Morario. "So if some of these features are not formed correctly, or are out of spec, or not designed properly, that has serious implications for safety, user experience, manufacturability."

"We hit that wall with rotational molding and really had a late in the game design change."

Modular Design = Greater Flexibility

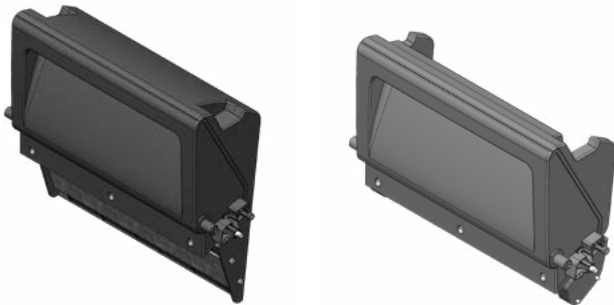
- ✓ 1 shared front assembly
- ✓ 2 interchangeable rear configurations
- ✓ Easier product customization



Exploded CAD view showing the modular hopper sub-assembly developed through collaborative DFM efforts

The Solution: Mastering Quality and Compliance

Prismier collaborated with Bigbelly to execute a critical manufacturing pivot that moved the waste interface to injection molding. But because the sheer size of the part posed a challenge for traditional injection molding, Prismier innovated a modular solution: manufacturing one common front piece, paired with two unique back pieces (a chute and a hopper).



Prismier helped engineer a modular waste interface using a shared front assembly paired with unique hopper and chute rear configurations.

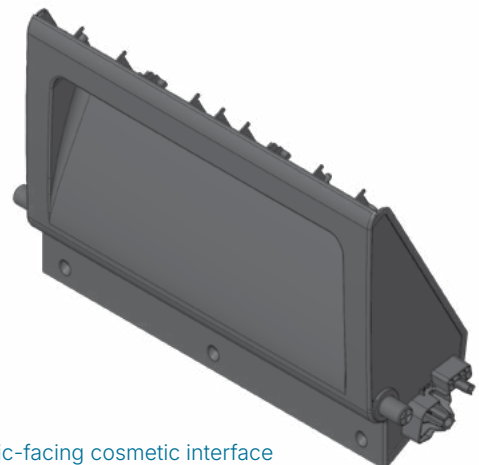
"It turned out to be a blessing in disguise," Morario explained. "It allowed us to commonize this front half to support two completely unique sub-assemblies. It gives us flexibility... if a customer changes their mind, we have that ability to convert it."

Scaling the next generation also demanded rigorous aesthetic, environmental, and safety standards across the rest of the unit, including:

- **Aesthetics and Texture:** Because the waste interface is a primary public touchpoint, visual perfection was paramount. Prismier assisted in optimizing the CAD geometry to ensure that complex cosmetic requirements, such as the textured plastic surfaces and the

compactor's signature die-casted silver foot pedal, were flawlessly executed without compromising the injection molding and die-casting processes.

- **Environmental Compliance:** The next generation products are inherently green technology, achieving a 5:1 compaction ratio that drastically reduces diesel garbage truck emissions. Prismier further reduced the environmental footprint by ensuring rigorous material compliance across the supply chain, such as ensuring all materials used passed the strict European RoHS standard for hazardous substances.
- **Mission-Critical Safety:** Placing industrial compacting equipment in public spaces demands an uncompromising approach to safety. Prismier collaborated with Bigbelly to manufacture and integrate critical safety mechanisms, including an emergency internal release cable featuring specialized stainless steel braided wire that connects directly to the unit's lock assembly.



The public-facing cosmetic interface required strict dimensional accuracy and premium surface quality.

Bulletproofing the Supply Chain: Advanced Logistics & Localized 3PL

With the engineering, aesthetics, and compliance locked in, the final piece of the puzzle was ensuring these complex parts reliably reached Bigbelly's assembly floor. Rather than shipping parts across the country, Prismier implemented a highly sophisticated, localized Vendor-Managed Inventory (VMI) program on Bigbelly's behalf.

This VMI utilizes proprietary automations that ingest customer forecasts and instantly computes precise replenishment levels. All of this works together to ensure the supply chain works exactly as expected, including the integration of a third-party logistics (3PL) warehouse that was located a mere 30 minutes from Bigbelly's Massachusetts assembly plant.

Today, this localized system monitors and maintains inventory for

41 different metal and plastic components.

"I try to automate as much as possible," said Dave Low, who was a key driver of the VMI implementation. "We fulfill not just inventory... we handle all the shipping and logistics... and stock it at a 3PL warehouse 30 minutes from their plant."



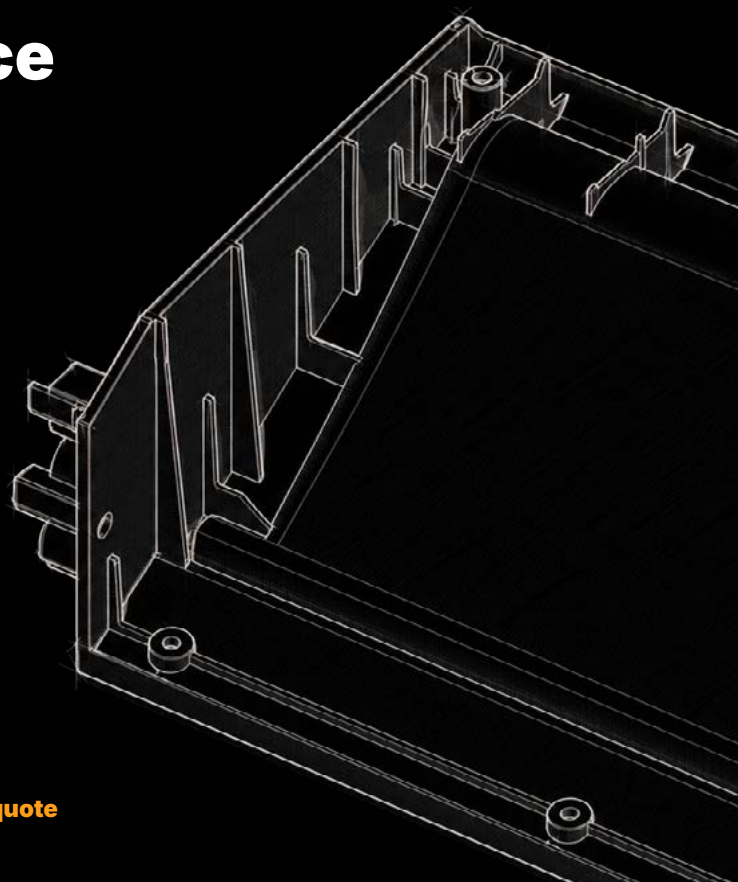
As Low puts it, "They're not waiting on parts... They're right there. They can have them as soon as today."

Ultimately, by treating manufacturing, quality, and logistics as one interconnected lifecycle, Prismier provided more than just components. They delivered cleaner parts, adaptable engineering, and an automated inventory system—removing a large amount of the supply chain burden from Bigbelly's shoulders.

The Prismier Difference

Bigbelly needed more than a supplier. From collaborative DFM and modular product design to localized inventory management, Prismier helped transform a complex product into a scalable manufacturing solution.

- ✓ Solved critical tolerance challenges
- ✓ Created a modular product architecture
- ✓ Maintained premium cosmetic quality
- ✓ Ensured material compliance
- ✓ Implemented localized VMI
- ✓ Managing 41 production components



Ready to simplify your manufacturing? prismier.com/rapid-quote