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“What does the perfect shaker look like? *It starts with a problem.*”

Reframing the Category

The design of the Opti-Lock Shaker began with a simple observation: a product used daily by millions had quietly accepted failure as normal.

Leaks, clumps, noisy wire balls, and material fatigue had become routine compromises within the shaker category. Instead of asking how to improve existing bottles, the team reframed the challenge entirely: what would a shaker look like if reliability and mixing performance were treated as seriously as the supplements themselves?

This point of view shaped the entire project. Rather than treating the shaker as an accessory, Optimum Nutrition and PROMIXX approached it as an extension of the supplement experience; a piece of performance equipment responsible for delivering the final stage of the product.

That shift in thinking set the foundation for redesigning the category from first principles.

Research & User Insight

The process began with understanding how shakers are actually used in daily routines.

Ethnographic observation and user interviews revealed that shaker bottles rarely live only in gyms. They travel through backpacks, car cupholders, train journeys, work desks, and locker rooms. What's more, users shake them while walking, mid-workout, or during busy commutes. In these conditions, small mechanical failures quickly become real frustrations.

Quantitative research reinforced the scale of the issue. Surveys of protein supplement users in the US and UK showed that roughly nine in ten had experienced leaks or spills from shaker bottles.

This insight reframed the problem from a minor annoyance to a systemic design flaw.

The design team at PROMIXX worked closely with Optimum Nutrition's internal product specialists and supplement formulation experts to analyse how powders behave when mixed under real conditions. Mixing performance, fluid dynamics, and closure reliability became the primary engineering challenges.



“We set ourselves a goal: End the leaks, end the clumps, innovate and bring something new and unique to the category.”

Designing From a Blank Page

With the problem clearly defined, the team intentionally avoided modifying existing shaker architectures.

Instead, PROMIXX began with a blank design canvas. Industrial designers and mechanical engineers collaborated from the earliest stages to ensure that form and function evolved together.

Three design principles guided development:

Engineered certainty

eliminating ambiguity in how the product operates

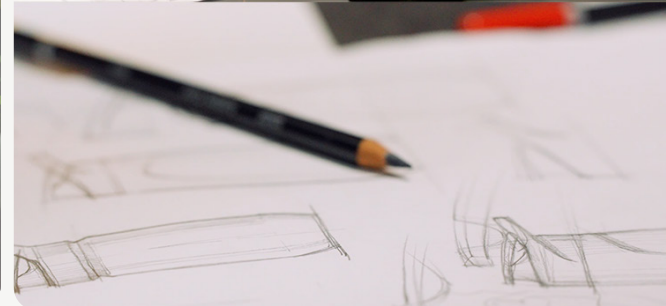
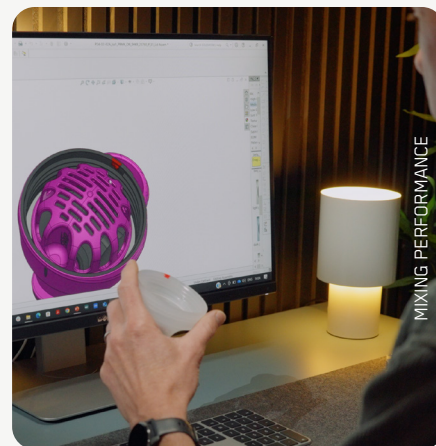
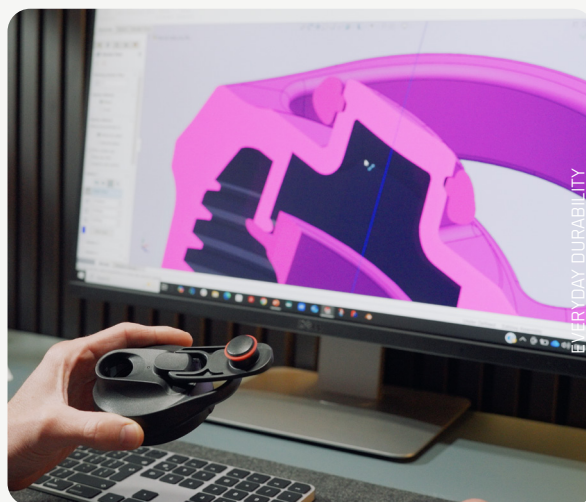
Controlled mixing performance

improving powder breakdown through fluid flow rather than chaotic turbulence

Everyday durability

designing for constant movement between gym, work, and travel environments

Early concept work explored multiple closure systems, mixing technologies, and bottle geometries. Dozens of prototypes were created to test sealing reliability, grip ergonomics, and internal fluid behaviour during shaking.



Engineering the Core Mechanisms



Pro-Lock Closure System

Traditional threaded lids rely heavily on user judgement. They can cross-thread, loosen under vibration, or fail when internal pressure builds during shaking.

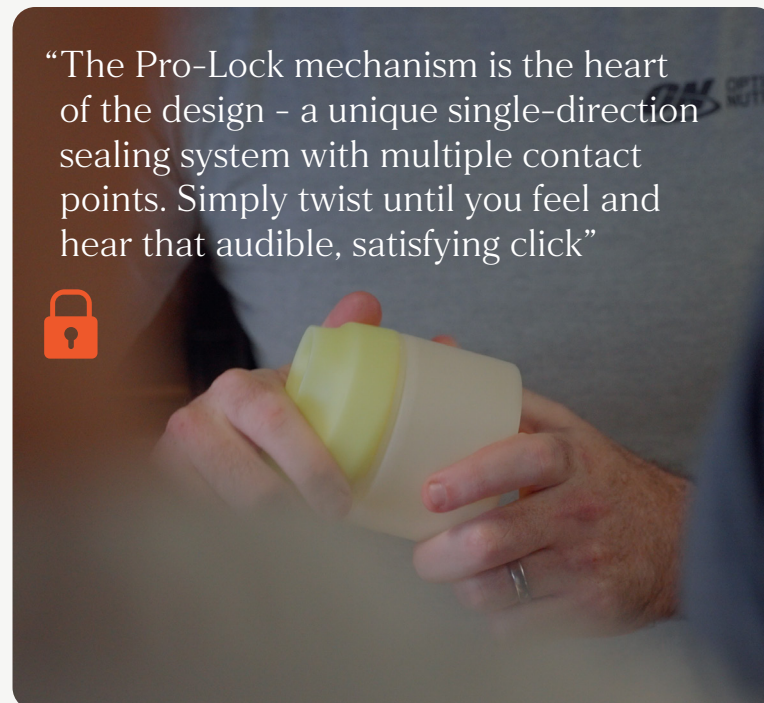
The design team developed the Pro-Lock mechanism, a single-direction sealing system that guides the lid into place through a controlled engagement path. The geometry creates multiple contact points that distribute pressure evenly across the seal.

Mechanical feedback - both tactile and audible - confirms closure, removing uncertainty for the user”

Extensive lifecycle and pressure testing informed tolerances and material behaviour to ensure consistent performance at scale.



“Tactile and audible feedback confirms closure”



“The Pro-Lock mechanism is the heart of the design - a unique single-direction sealing system with multiple contact points. Simply twist until you feel and hear that audible, satisfying click”



Engineering the Core Mechanisms



Domed Agitator Mixing System

PROMIXX have always bucked the trend against the supposed traditional mixing ball. As it's inefficient at breaking clumps, has a loose component that creates noise, residue traps, and coating degradation over time.

Through PROMIXX's established history and iterative prototyping and flow analysis, the team employed a domed agitator structure integrated into the bottle's lid. During shaking, liquid accelerates across the curved surface, generating controlled radial flow and shear forces that break down powder efficiently.

The result is reliable, smoother mixing without moving parts.

“Inside, our signature domed agitator creates a perfect mixing environment, smashing clumps and leaving you with a silky-smooth shake in seconds.”





Materials & Sustainability Considerations

Material selection balanced durability, safety, and environmental responsibility.

The bottle body uses carbon-neutral polymer materials that are BPA and DEHP free, addressing growing concerns around disposable shaker bottles and long-term plastic degradation.

Designing for longevity was considered a key sustainability strategy. By creating a shaker that users rely on daily rather than frequently replacing, the project reduces the cycle of low-cost disposable products common in the category.

Material thickness, structural geometry, and dishwasher durability were also refined through repeated testing with manufacturing partners.

“This is shakeware for the long haul”



Ergonomics & Everyday Use

User behaviour studies revealed that grip security and portability were often overlooked in other shaker design.

The Opti-Lock form incorporates a curved structural profile that strengthens the body while creating natural grip zones. Tactile surfaces improve handling during workouts, while an integrated carry loop allows the bottle to move easily between gym floor, locker room, and commute.

The dark-tinted body provides visual identity, but every visible detail was designed to reinforce usability rather than mere decoration.



Collaboration & Stakeholder Alignment

The project brought together two organisations with complementary expertise.

Optimum Nutrition contributed decades of experience in supplement formulation and consumer insight within performance nutrition. PROMIXX led the industrial design, engineering development, and manufacturing implementation of the product.



This close collaboration with manufacturing partners ensured the final design could be produced consistently at scale while maintaining tight sealing tolerances and material performance.

The development process also considered a wide range of stakeholders:

- Athletes and everyday users who require reliability in demanding routines
- Retail partners who benefit from durable packaging and distinctive shelf presence
- Manufacturing teams whose processes informed component geometry and tooling design
- Distribution networks where packaging durability reduces product damage in transit

Balancing these perspectives ensured that design innovation translated successfully into a real product delivered at scale.

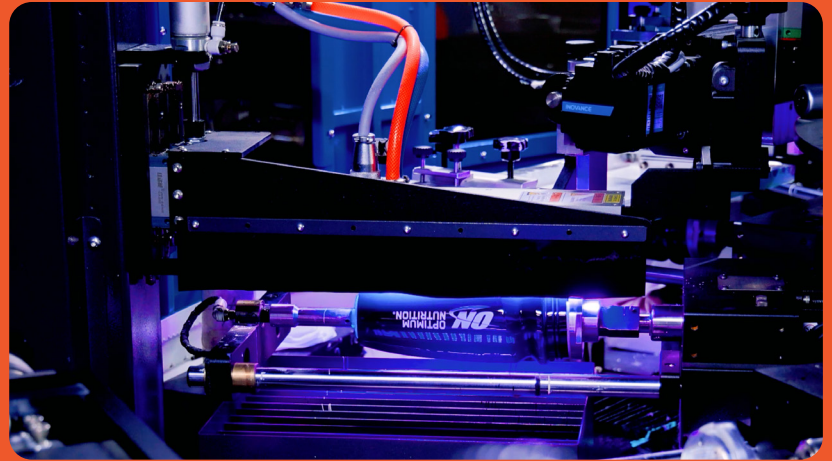
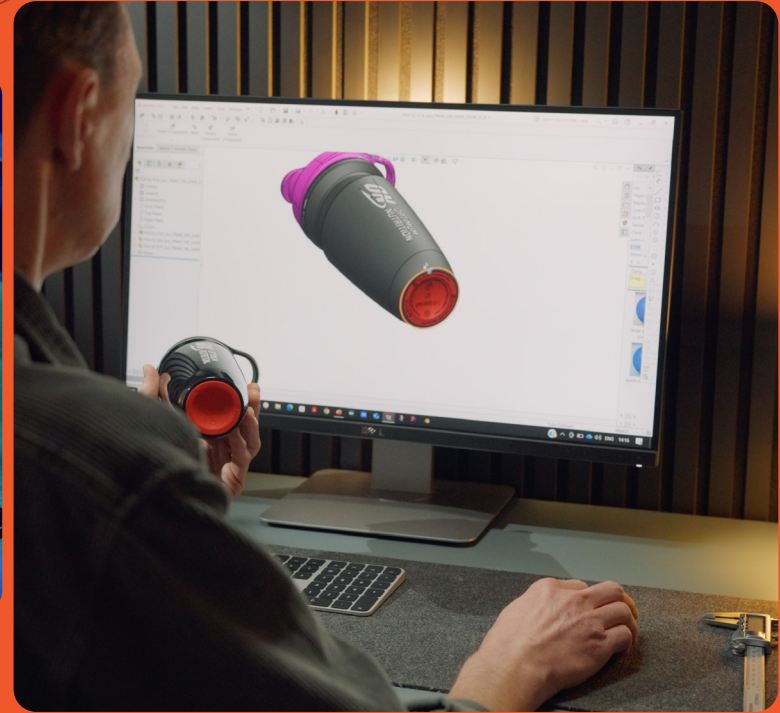
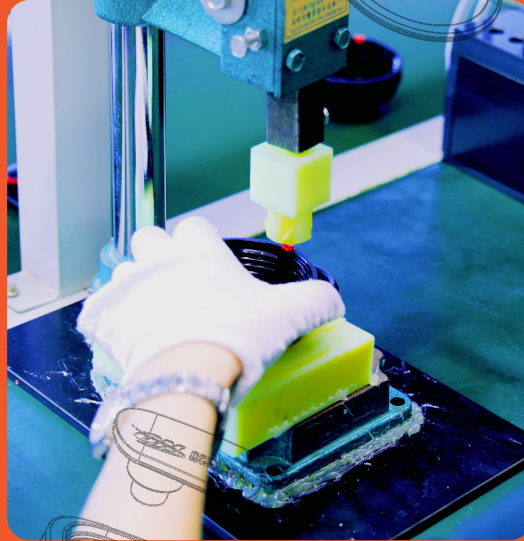
Iteration, Testing & Validation

Prototype testing played a central role throughout development.

Multiple rounds of evaluation examined:

- Seal reliability under pressure and repeated use
- Mixing performance across different supplement types
- Ergonomic comfort during shaking and drinking
- Long-term material durability and dishwasher exposure

Thousands of leak tests and repeated user trials helped refine small but critical details such as seal compression, lid geometry, and agitator curvature. The final product represents the cumulative result of this iterative engineering process.



A Design Philosophy Applied to Everyday Rituals

“We’ve built a lot of bottles. But this one? This one’s different. This is the one you brag about. The lock, the feel, the finish, it’s one-of-a-kind. Opti-Lock is the shaker other shakers wish they could be.”



The Opti-Lock Shaker demonstrates how thoughtful industrial design can transform a familiar object by questioning assumptions that had long gone unchallenged.

By combining user-centred research, mechanical innovation, and manufacturing precision, the project reframes the shaker bottle as a piece of performance equipment rather than a disposable accessory.

The result is a product built around a clear point of view:

When something becomes part of a daily ritual for millions of people, it deserves to be engineered with the same care as the products it serves.

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NEW



Introducing the Opti-Lock™ Shaker.

Shake with confidence,
every time!