

Integrating Milk Foam into Quooker's Kitchen Design

This project presents a fully integrated milk foamer for Quooker's upcoming Coffee Tap, an espresso system designed for minimal kitchen clutter. A structured, user-centered process, involving surveys, emotional self-tracking, and product testing, led to the identification of five user segments. Among them, Automation Seekers stood out as the primary target group. The research revealed a strong demand for a milk solution that is simple, fast, and hygienic.

The final concept uses a Venturi mechanism powered by under-counter steam to create high-quality foam, controlled entirely through the Coffee Tap interface. The compact, dishwasher-safe design aligns with Quooker's ecosystem and has been validated at TRL 5, showing strong potential for integration and future scaling.



Point 1: Steam enters the system through an inlet channel.

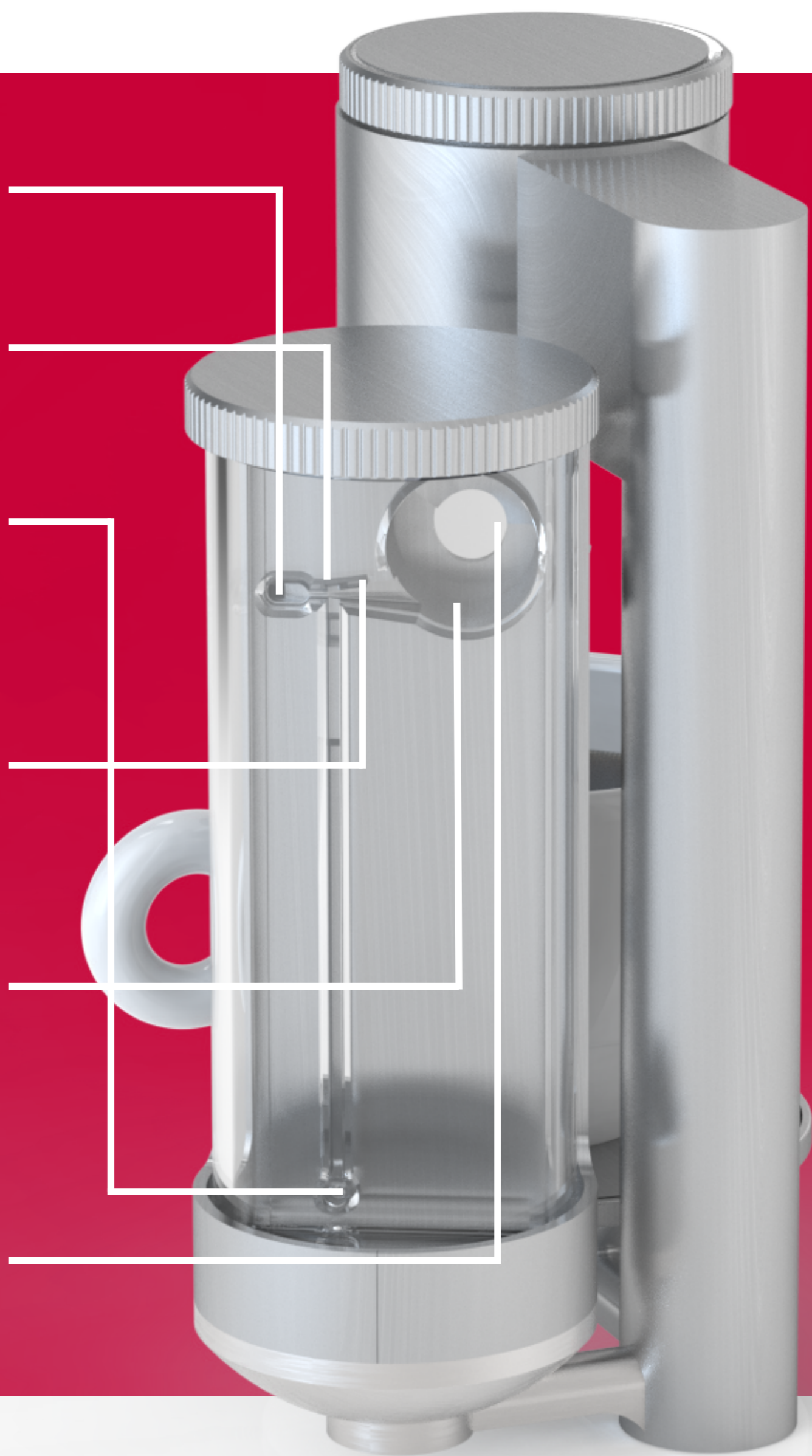
Point 2: As the steam flows into a narrower section—the Venturi throat—its velocity increases, leading to a pressure drop.

Point 3: This pressure drop creates a suction effect that draws milk up from an adjacent milk container via a dedicated inlet.

Point 4: Simultaneously, a small air inlet allows ambient air to enter. This step is critical for foam formation, as the air creates microbubbles when mixed with milk and steam.

Point 5: The steam, milk, and air converge in a mixing chamber. Here, their interactions generate turbulence, initiating the foaming process.

Point 6: A strategically designed ramp at the exit of the chamber creates just the right amount of rotational turbulence, enhancing steam penetration and foam texture before the foamed milk is dispensed.



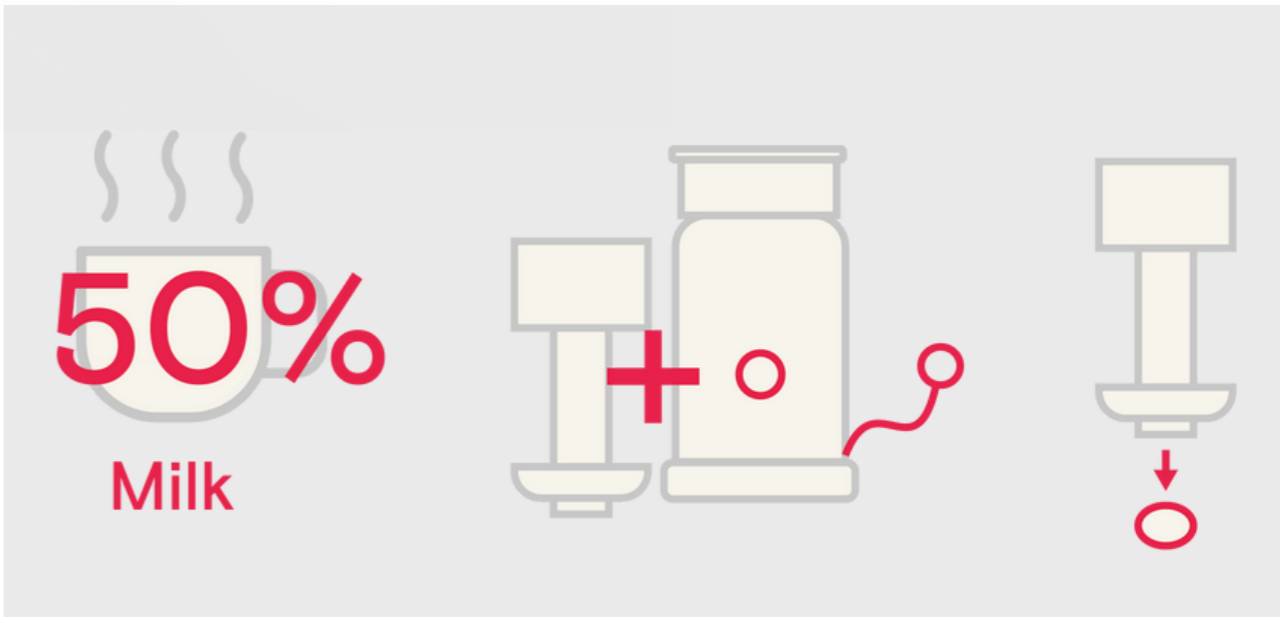
Technical Perspective – Modular Design for Easy Cleaning

This milk foamer is built around a smart, two-part construction. The transparent milk container and the venturi component are connected using a silicone seal. This allows the two parts to be easily detached for cleaning or maintenance. Once separated, each component is fully dishwasher-safe, making hygiene effortless. With no electronic parts in the foaming unit itself, the entire system is optimized for frequent use and simple upkeep.



Human Perspective – Designed for Daily Routines

This milk foamer is designed for the *Automation Seekers*, a user group identified through extensive research. They value speed, simplicity, and minimal cleanup. Emotional tracking and interviews revealed a desire for plug-and-play experiences and frictionless routines. By offering single-touch operation, hands-free foaming, and easy cleaning, the solution fits seamlessly into their mornings. The result: a product that supports real coffee habits, without demanding extra time or effort.



Strategic Perspective – Aligned with the Quooker Vision

Quooker stands for convenience without compromise. Their clean-counter philosophy eliminates clutter by integrating everyday functions into a single tap. This milk foamer extends that vision. It avoids extra appliances, requires no new countertop holes, and operates entirely through the Coffee Tap interface. The system is backward compatible and supports plant-based milk, making it both future-proof and brand-consistent. Strategically, it strengthens Quooker's position as a premium, fully integrated kitchen solution.

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