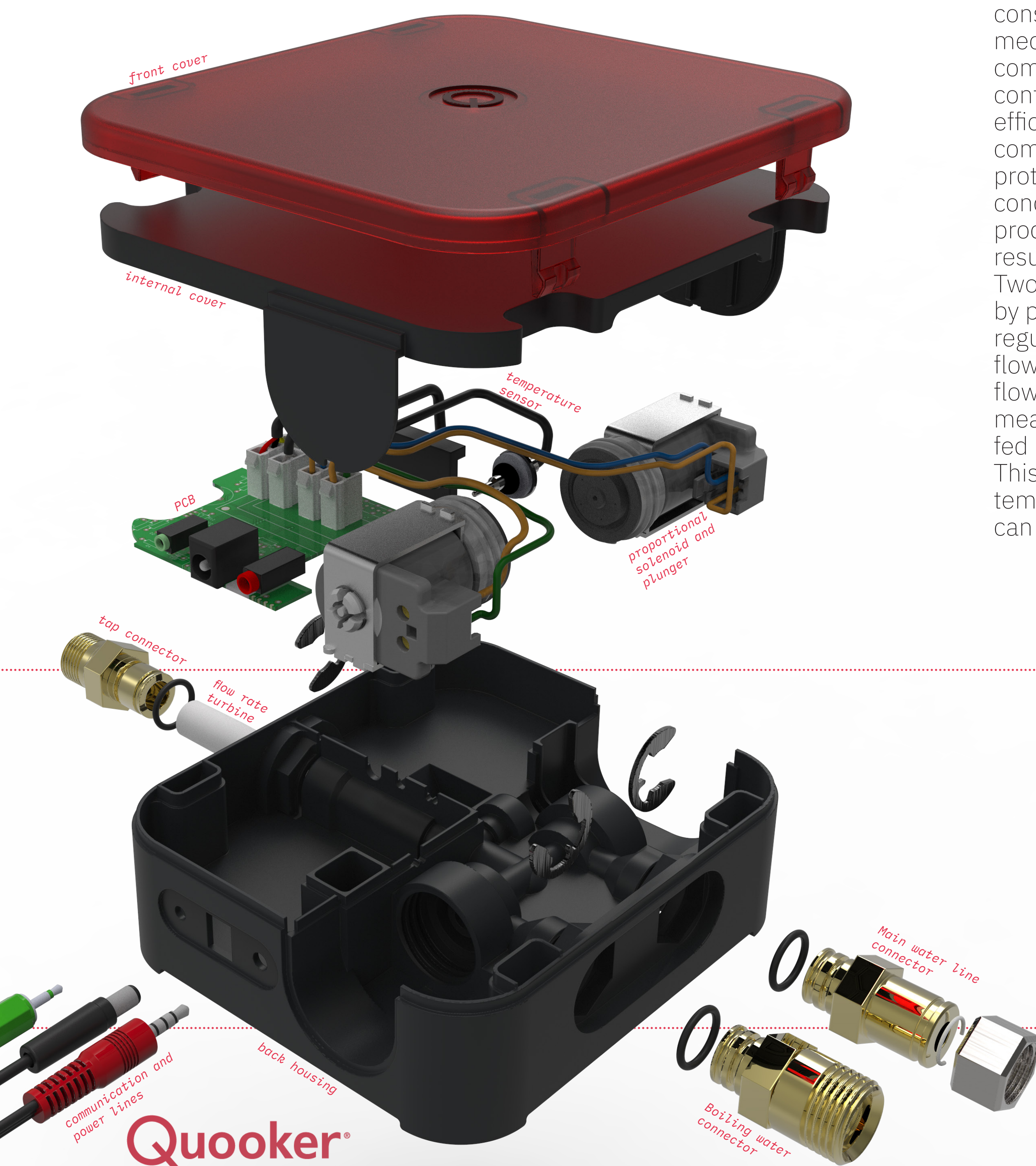


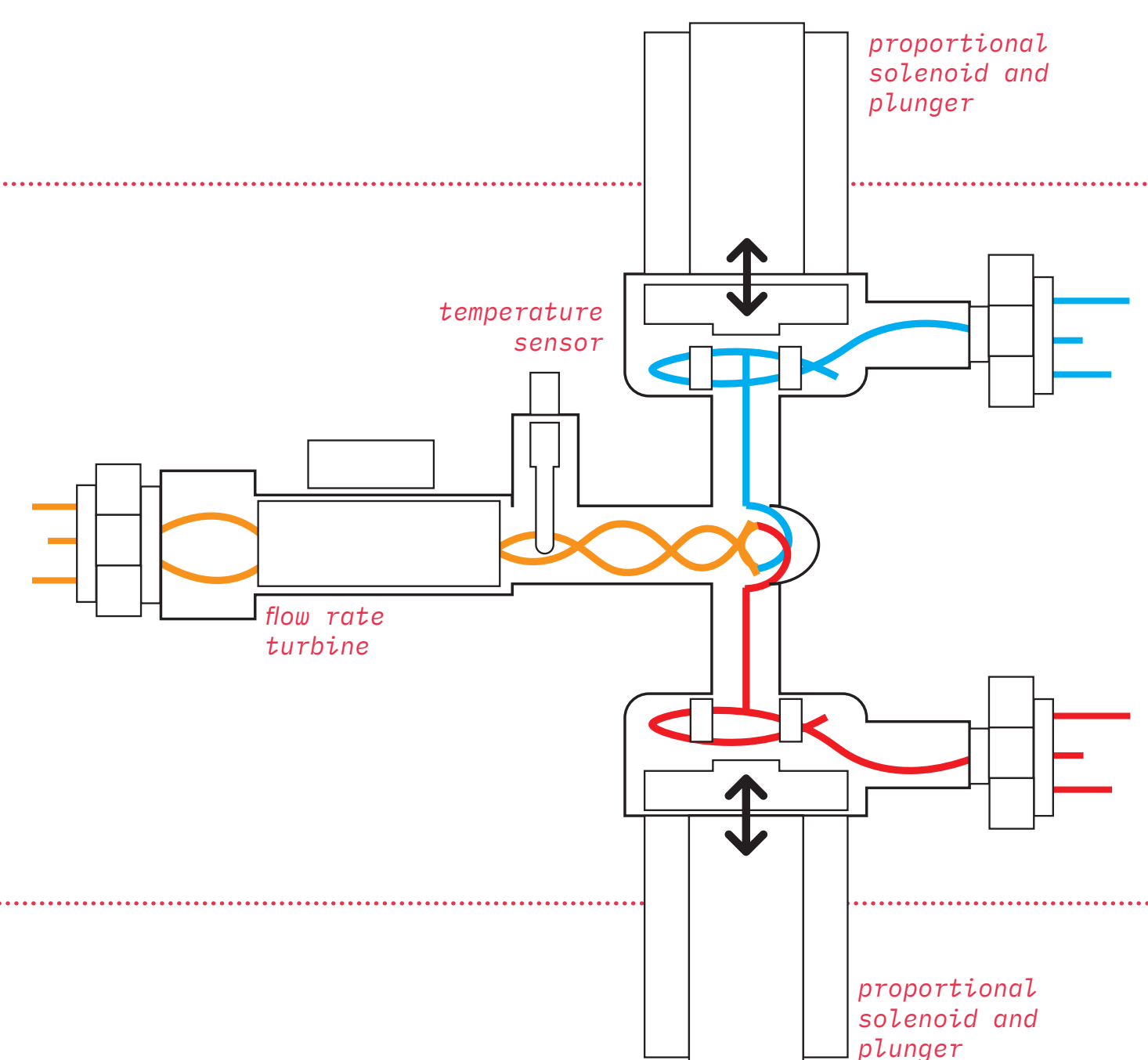
the system design of a new *electronic mixing valve* for an instant boiling water dispenser

An electronic mixing valve is the foundation for future tap related innovations, located inside of a kitchen cabinet. It allows users to electronically control the temperature, flow rate and volume of a dispensed liquid. Contrary to current tap systems, this mixing valve actively controls the cold main water line and boiling water to instantly dispense a predetermined flow rate and temperature.



The electronic mixing valve consists of a combination of mechanical and electronic components, functionally configured in a space-efficient housing. Electronic components are safely protected from leakage and condensation thanks to the product's housing geometry resulting in an IP44-rating. Two plungers controlled by proportional solenoids regulate independent water flows. Temperature and flow rate are continuously measured during use and fed back to the solenoids. This way a constant temperature and flow rate can be ensured.

Thanks to its design, the product can be integrated into current and future configurations. The product is easily mounted within the kitchen cabinet, placed in between a new tap and a current Quooker reservoir. Both the tap and reservoir are connected to the electronic mixing valve through communication and water lines. The main housing components are injection molded, allowing for more geometrical complexity and an optimised assembly process.



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