

Linear Stepping Motors Power Advanced Voice Control Faucets

Change the water temperature to 85 degrees

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Linear stepper motors enable precise control over water temperature and flow within advanced kitchen and bath faucet applications. This delivers many advantages compared with solenoid technology which can only perform simple on/off functions.

Smart home solutions have witnessed a surge in growth recently as consumers demand more personalized environments. Not only are users aware of the increased control these devices offer, they are also discovering the economic benefits of integrating connected appliances and accessories. Being able to control home devices remotely, set schedules and monitor usage leads to actionable insights for each individual or household. In turn, this data can help consumers to be more mindful about the water, energy and other utilities consumed on a daily basis.

Connected home devices also offer a level of personalization that is not possible through manual operation. In a typical household, individual preferences may vary for both water temperature and pressure. Voice control can be used to automatically adjust for each user – water temperature can be regulated to the precise degree. With a smart faucet users can define their preferred settings in advance, creating a more convenient, customized experience.



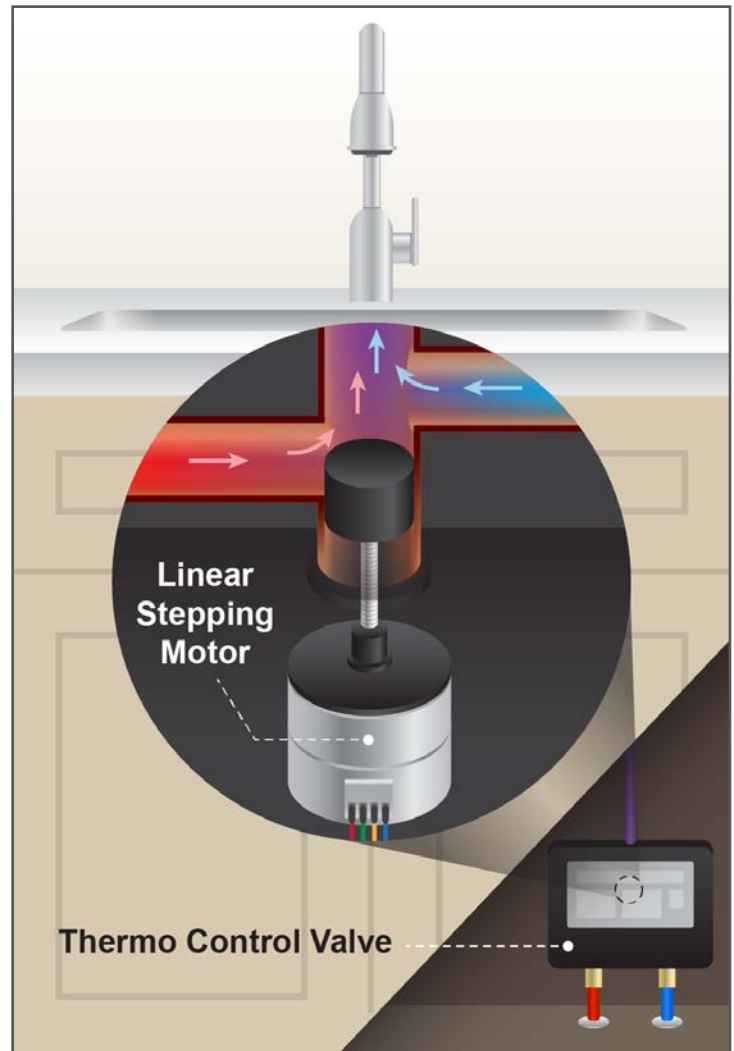
Dispense specific quantities & track water usage



Precise Faucet Control With Linear Stepping Motors

In order to precisely regulate water temperature, manufacturers can employ a stepping motor which delivers incremental position control for water mixing. MinebeaMitsumi's PL25L Linear Stepper is able to control how much hot and cold water is delivered by accurately adjusting the flow rate of each temperature valve. This allows users to actually request a specific temperature – to the degree – and enhances the overall experience.

The incremental position control of a linear stepper allows the user to precisely manage water temperature and regulate flow rate through the faucet. Rather than a simple on/off action, a stepper motor performs precise positional movement to deliver a slow stream or fast jet of water. While this functionality started with kitchen faucets, it has expanded to bathroom fixtures as well. In the shower, personalized water pressure settings can enhance this routine activity to a spa-like experience. By integrating the PL25L manufacturers can deliver flexible water pressure, ranging from a light rain to an intense massage, providing complete personalization to the user. This feature can also be used to help conserve water by limiting the flow rate if desired.



PL25L Series

Consumers continue to demand more features and capabilities in smart home devices and fixtures. MinebeaMitsumi Linear Stepping Motors deliver more dynamic functionality than solenoid valves for both kitchen and bathroom faucets. These motors use our precision ball bearings, manufactured in-house, which support reliable operation and long life. As a vertically integrated manufacturer, we are focused on bringing the highest standard of quality to every project. Our engineering team will recommend custom modifications to achieve performance specifications, and support a seamless mechanical integration to meet each unique design configuration.