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REFRIGERATOR REPLACES HUMMING PARTS WITH SOLID-STATE COOLING

 PROPERTY & CONSTRUCTION

Phononic is bringing solid-state technology to coolers, making them more reliable, green, and quiet.

Like many kitchen accessories, the fridge is becoming smart. Devices such as the [hiku](#) fridge magnet are already enabling consumers to intelligently track their stock and automatically create shopping lists when they're low. Focusing on the energy-efficiency side of things, [Phononic](#) is a company that's bringing solid-state technology to coolers, making them more reliable, green, and quiet.

Those familiar with computer accessories and hardware will know that in recent years mechanical disk drives have for the most part been replaced by solid state alternatives. As well as being less susceptible to shock, they're faster, smaller and work silently. Phononic has now begun to apply the technology to other home appliances, most notably refrigerators.



A standard compressor (left) next to Phononic's solid state cooler

Typical fridges use a hefty compressor that relies on toxic refrigerant, fans, pipes and moving parts to do the hard work of keeping the inside constantly cool. Phononic has replaced this with a compact semiconductor-based heat pump that's thermoelectric, creating heat on one side and removing it from the other. It makes no noise, is more eco-friendly and is a lot smaller than a compressor, and Phononic has created both a medical-grade refrigerator and small consumer cooler with the technology.

Thanks to its miniature footprint, the company believes it could even bring refrigeration to small storage, such as drawers or shelves in the home, without the annoying humming usually involved in refrigeration. Much like solid state drives however, the cost is likely to be at a premium when the devices hit the market. Are there other appliances that could replace their mechanical parts with similar technology?

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