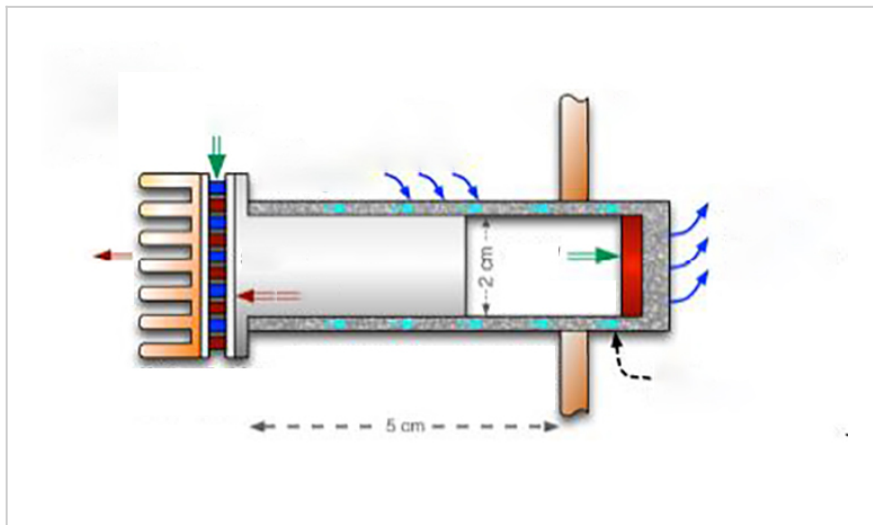


Solid-state High-efficiency Vapor Exhausting Dehumidifier

ID# 2018-4862



Schematic of solid-state dehumidifier

Technology Summary

A fully solid-state, compact, and efficient dehumidification technology. The device can continuously dehumidify an enclosure, protecting electronics or other sensitive materials from moisture build-up, without requiring periodic servicing. The proposed invention discharges water as a vapor to avoid periodic servicing.

Application & Market Utility

Current moisture control solutions generally use desiccant packs, which are non-continuous and must be manually replaced once they become saturated. Vapor compression dehumidifiers are relatively complex, loud, and bulky in comparison to this invention. Other forthcoming products may also employ solid-state cooling but these designs employ active elements such as fans and blowers; further, these designs also discharge liquid water that must be periodically drained.

Next Steps

Translate design into a working prototype. Patent pending. Seeking licensing, funding, and collaboration.

TECHNOLOGY READINESS LEVEL

1-3

Seeking

Investment | Licensing | Research

Keywords

- solid state
- thermoelectric
- moisture build-up
- dehumidification
- desiccant packs

Researchers

Alexander S Rattner

Assistant Professor

[Online Bio](#)

[Website](#)

Originating College

College of Engineering

Office of Technology Management Contact

Swope, Bradley
bas101@psu.edu
814-863-5987



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